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Farm Department.

Conducted by J. H. Brown, whose farm is conducted as the Michigan Farmer Experiment Farm. All correspondence for this department should be sent to Battle Creek, Mich.

THE EDITOR'S FARM NOTES.

CARE OF FARM TOOLS.

Although we now have a new tool house, of ample capacity, we have always kept all our tools under cover, even when we seemingly had not place to store them. The fact is, we simply made a place, for we were bound to make a tool last as long as possible.

Even during the past season we utilized the old storage places, aside from using the new house. The new storage is now taken for those tools that are in almost daily use, including the wagon and farm truck.

The plow and harrow is seldom left out when not in actual use. We have a sulky rake that has seen twenty years of consecutive service. It has been well cared for and kept under cover, even though it was necessary to take off the wheels, lever, seat and shafts. We would not now give five dollars in exchange for a new rake of the same style and size.

We have one open shed used for temporarily storing tools under when in active use during the summer. We also use the main barn door occasionally for this purpose. In fact, there is no waste room lying around anywhere in our barn and sheds. Even the space overhead the main barn floor is all utilized.

When the new house on the main farm was built, the old house was moved back near the barn. It was suggested that this building be torn down, but we refused to do it. Though it is a low and an old looking structure, it has done good service. It was reshingled, and is now utilized for a granary and feed room, and we store the binder, mower, hay tedder, and many other smaller tools therein.

In order to get the binder through the double doors of the old house, it is necessary to take off the reel, seat, both dividers and bundle carrier. It stands on trucks and is backed by means of the tongue. The tongue is then taken off and the machine occupies but a small amount of space.

When the binder is not in use for a few days, or when the oats are not ready to cut, we shall, in future, set it on the trucks and back it into the new tool house. We have now used this binder for nine years, and it is almost as bright in appearance, and just as perfect in operation, as when we purchased it. It will last several years longer, so far as we know.

Some may call us cranky and fussy, but those implied terms cover conditions that pay us to follow. One winter's exposure would do more damage to our binder than we can afford to stand. Even twenty-four hours of needless exposure to the elements would incur a greater loss to us in

money value than our time is worth while actually occupied in putting this machine under cover.

The shrinkage and swelling of wood, and the oxide of iron, formed over the surface of steel by standing just one night in a heavy dew, is a damage. This can be materially prevented by using a canvas cover every night and during a storm.

The mower, rake, tedder, riding corn cultivator, etc., are all taken apart, more or less, in order to store them all away in a good, dry place, after the season's work is over. It requires some extra work and attention to get all these tools into small space out of the way, but we do it every time.

Small tools are stored in various out-of-the-way places. Some hang on nails or hooks and others are suspended by ropes or tucked in between the larger tools. More tools can be stored away into a small amount of space than one is aware of before attempting to accomplish such a result.

It pays to protect farm implements at all times of the year, and we all should see that there is as little needless exposure as possible. There is an immense money loss in leaving tools out in the weather, and the farmer who does this loses money every day he follows this practice.

For The Michigan Farmer.

TO CUT OR SHRED.

As there has been considerable discussion of the question of cut fodder vs. shredded fodder, perhaps my experience may be of some use to brother farmers. Last fall after husking was done I hired a man who owned a threshing engine and a No. 18 ensilage cutter, with shredder attachment, to shred or cut my corn stover. Most of it was in the barn, 13 acres of heavy fodder.

I used both shredder and cutter to satisfy myself as to which was best. We shredded part and cut the rest. As soon as we commenced cutting I was sorry I had not cut it all, and I wish so yet, only now I know which pleases me best, and I believe any farmer who sees the two, side by side, will agree with me.

The cut fodder has a brighter look and is eaten more readily by the stock with only about one-half the waste. As to its keeping, there is very little difference; in fact I think there is very little trouble in keeping either if we wait until husking is done and choose a dry time, or put the stover into the barn or stacks and wait until cold weather.

The stover that was in the barn kept well, although some of it was quite moldy from being put in too damp. I put my cut and shredded fodder into the bay where it was 14 or 16 feet deep. There was a thin coating of mold formed over the top, perhaps two or three inches thick, and beneath that it is bright and nice. I use off one side instead of uncovering all at once.

Ye editor thinks there is a gain in feeding of not more than 25 per cent. My experience (this is my first year) leads me to believe that there is 40 or 50 per cent at least. I have never kept my stock as well and cheaply as this year, and I depend largely upon stover for coarse feed.

In one way I think farmers make a mistake in cutting; they cut stover too

long (coarse). My idea is to cut as short as you can, and if the machine will not cut short enough get another. My stover was cut three-eighths of an inch; ensilage the same, and I believe this applies equally as well to ensilage, as mine never kept as well as this year.

Small farmers cannot afford to buy and keep power, cutter, etc. They can better afford to hire a man, who has a big cutter with threshing engine, to do the cutting and have done with it, providing they have room to store the cut fodder. Feeding whole stover is out of date with me, and I do not now own, nor do I think I ever shall own, a feed cutter, etc.

I cannot agree with Mr. Martz regarding the corn husker, especially when I can hire my corn husked by hand for two cents per bushel and board, or two and one-half cents and huskers board themselves, as was done all around me last fall. It is too expensive and too wasteful. I have had a little experience and I don't see any difference between changing work with neighbors and hiring it. The farmer who has nothing to do at that time of the year is an exception. Another objection to the husker is that the fodder (stover) will not keep as well as fodder husked by hand and cut (or shredded if you prefer). Two years ago last fall I had part of my corn run through a husker, and a good share of it was shelled and went into the mow with the cut stover, and at least double the fodder spoiled that there did this year, notwithstanding the fact that it was the driest fall we have had in many years, the corn fodder being so dry we could not husk by hand.

I have tried sprinkling corn shocks. I prefer to lay down as many as we want to husk during the day, open and sprinkle and then pack them solidly together until we get to them.

In another matter I disagree with Mr. Martz. He says we don't want the price lowered. I say we do; \$10 per day is too much for husker, engine and two men. I paid \$6 for cutter, engine and two men. I rather think Friend Martz owns a husker himself, or at any rate he pleads their cause pretty well.

Ottawa Co., Mich. WM. WHIPPLE, JR.
(We have been personally prejudiced against the husker, and yet have had no experience of our own with the husked and shredded fodder on a large scale. Our stover has been cut up in small lots, lasting a week or ten days at a time, and we never had any spoil on our hands.)

Our plan has been followed every winter for the last five years and we see no reason to change. If cut into small lengths, as friend Whipple states he cut his, we should like it as well as when shredded. It takes more power to shred. It also requires knives kept constantly sharp to cut in good condition. Friend Whipple's communication is interesting, and we hope to hear from others about this matter.—Ed.)

GETTING OUT MANURE.

The season is close at hand when most farmers wish to clean up the manure yards, and observation shows that a large majority of farmers have not yet learned to take advantage of this job, which is one of the hardest and most disagreeable on the farm.

The common practice is to rig up a

single wagon and team, drive in and load up, then drive to the field and spread the manure from the wagon. When managed in this way the team is standing idle over half of the time, stamping the barnyard into holes, fighting flies, when it would be more comfortable if on the move. The men will spend nearly half the time riding to and from the field.

It is next to impossible to do even a passably good job of spreading manure by standing on the wagon and throwing off bunches here and there without being properly shaken apart. This whole job becomes tedious and irksome and is very likely to be slighted from first to last, which will tell on the next crop.

Several hired men who have helped me with this work have told me that by our plan we could move out more manure for the time and money spent than by any other way they had ever seen tried. We want nothing but a good, strong, willing man to help with this. One team and two wagons are always used. Every passage way into the manure lot is thrown open, so we can pass in or out in almost any direction. While the team is gone to the field to unload one wagon, the man is loading up the other. Care is always taken to drive the empty wagon where the load can be put on with the least work.

But it is in the field that the really skillful work is required. We never attempt to spread from the wagon. The side-board on one side is taken out and the manure pulled off in piles with a manure hook. We use boards ten feet long, with side-boards about two feet wide, and the manure is piled up on these as long as it will lie on. Each load is divided into six equal parts and dumped in conical piles, in straight rows 25 feet apart each way. When the manure is in condition for rapid work, we get out about 25 loads per day. When it is fine and tramped solid, 18 or 20 loads will make a day's work.

When put on at the rate mentioned above it requires about 12 loads to cover an acre. We practice a four-year rotation, consisting of clover, corn, oats and wheat. I have tried for years to figure down this manure spreading pretty fine. I have found that by working all the oats and wheat straw from half of our cultivated land into manure, by feeding all the cornfodder and about all the clover hay from the other half, and by carefully saving and applying all the manure, we have just about enough to cover all our corn ground each year, or all the plow land once in four years. When the season is such that the straw and litter is pretty well rotted down, we have to spread a little thinner than here described in order to make it reach.

Our land in this region is very fertile, so it is not best to apply to anything but corn. It would be almost certain to cause the other crops to lodge. So the manure is applied to the clover sod from which the crop of

clover hay has just been taken. This, with the second growth usually plowed under, makes an ideal seed bed for corn. The manuring, of course, is done soon after the hay is taken off or the second growth will prevent spreading properly, and the manure will make trouble if a crop of seed is to be taken.

Some years ago I put piles of manure as here described on a pasture field that was to be plowed for wheat. The hogs rooted the piles down, and scattered them about so we could not do the spreading as it should have been done. Where each pile was there was a spot ten or twelve feet in diameter that had too much manure and the remaining space had very little. When this field was ripe it was a good object lesson for the man who does not believe it pays to spread manure evenly all over the ground. On each of these rich spots the wheat was down flat, while on the remainder of the ground it might have been sown thicker and ranker without failing at all. The field averaged 25 bushels, which was fairly good, but I am certain that had the manure been properly spread, it would have made 30 bushels that could have been saved in harvesting. Wheat at that time was worth \$1 per bushel. Here was a loss of \$5 per acre, or \$40 on the eight acres, which would have paid for doing the work right, about a dozen times. Since then we are very careful to get the manure spread over the ground as evenly as possible, so that it will not be wasted on one spot while needed on another. I would like to have it spread so evenly that there would not be a spot as big as my hand without some manure on it, but we never get it done so well as this. "Confession is good for the soul," and so I have told the above.

If not spread as soon as hauled out there may be much loss from leaching; besides it does not work nearly so well if dried by the sun. I attend to this myself and spread each load as it is drawn out.

The old idea was that if manure dried out before being plowed under, it was almost worthless. It is now well known that very little is evaporated except the water.

Anglaise Co., O. J. AL. DOBIE.

CLOVER AND ARTIFICIAL FERTILIZERS.

Clover is one of the best fertilizers that we have if properly used, but clover exhausts soils just the same as corn, wheat or any other crop. It is not a permanent fertilizer except in its particular province. The undoubted value of clover has led to many erroneous impressions regarding it. Many believed that it would restore almost to its pristine condition the fertility of the soil. But this is far from being true. In fact clover is only one of a series of soil fertilizers that we should use on our land.

We hear a good deal now and then about clover-sick land. This means in other words land exhausted by too much clover growing. We might just as well say that the land is wheat sick, corn sick, or something else. If you raise corn or wheat on a field for five years in succession you will have sick land.

Clover raised too many years in succession exhausts the soil of its mineral elements, and it becomes clover sick. A perfect knowledge of this should be understood by every farmer who raises clover, and thinks by so doing that he is restoring his soil to its original fertility.

Clover is a valuable agent in restoring fertility because it adds to the soil what most fields lack. It gathers from the atmosphere nitrogen and adds it to the soil. Its roots help to break and pulverize the soil, and when they decay they add much plant food to it. By plowing under a clover field we make the soil richer by so many tons of plants, and by the amount of nitrogen that the plants have extracted from the air. As nitrogen is one of the most important of fertilizers, the most costly, and one found in the least quantities on most soils, the value of clover is apparent.

But too many stop there. They keep raising clover year after year. The land becomes stocked with plant material and nitrogen. Much of the nitrogen is not in an available form because it needs more mechanical stirring of the soil to liberate it. In time the land becomes clover sick, or exhausted of the other two important soil fertilizers—potash and phosphoric acid. This is why soils are clover sick, and refuse to let new crops of clover catch well. The remedy is simple. The fertilizers should be more evenly balanced. If to the

clover we add sufficient potash and phosphoric acid, and stir the soil enough to mix these, and to produce chemical processes that liberate the nitrogen, then the soil will become as rich and strong as one could desire.

New York.

PROF. JAMES S. DOTY.

ALL IS WELL THAT ENDS WELL.

THE WORK OF ONE SEASON.

Without speaking in a bragging way I would like to tell the Michigan Farmer readers that we have done one of the hardest year's work ever accomplished by us on our farm.

Early in the spring, when the snow was yet on the ground, the work began in full blast. Having some wood to cut, the writer did his half toward putting up six cords of 18-inch wood a day.

This was hardly off our hands when the sun called Jack Frost from mother earth and roused the enthusiasm in us mortals, warning us that summer was almost upon us and that we too must be up and doing. There never is a time (I believe) when one feels so enthusiastic as early in the spring when the warm days come and with them the migration of the fowls of the air. Everybody and every creature seems to awaken from something like a "Rip Van Winkle" sleep during this period, and I must say that it is one of the most enjoyable times of the whole year.

This spell was upon us when we had completed our fuel supply for the year, and as our plan for the summer's campaign had been well studied, we knew just what was coming and did not have to stop for the "nomination" of anything.

Our first work, before the ground was dry enough to use the team, was to ditch a 14-acre field. Of this I have spoken before, only I wish to verify the former statement that I expected the first crop would pay all the extra expense, and we would have the improvement to boot, and it did, too.

This field cost us a good many dollars this summer. The tile, ditching, logging, pulling stumps and picking stone was not only a hard task, but an expensive one as well, for we were smashing everything to pieces all the time and it seemed as though either the hired man or myself was on the road to and from the blacksmith shop most of the time.

Nevertheless we survived to tell the story, and it's a good one, too. The corn on the new part of the field produced 100 bushels of ears to the acre, just as we said we thought it would when some skeptical fellow thought we were counting our chickens before they were hatched. Now when you come to clear off a field for a crop (if you have never done so), you will soon learn that there are a good many extra hours to put in that have not been counted upon, and, if you are not careful, the first you know there will be 40 or more jobs that need looking after, all at the same time.

But I would not have you think one must clear off a new piece in order to get behind with his work. There are opportunities for improvement on most farms, and when a farmer gets intensely interested in a job of this kind he is pretty liable to turn a deaf ear or a poor eye to it till after the other work is finished. Of course you know what I meant by saying "finished."

We've got a cow barn that was built two years ago, which was "finished" in the same way. Maybe we'll get time yet this fall to put in a feed bin, a partition gate and a small cupboard for the milk pail or can. Then we can write in our diary the word *finis*. Don't you see, this is one of the 40 jobs toward which we've been turning a deaf ear for nearly two years.

But you may ask what we have been doing all summer to so occupy our time. That would be a difficult thing to tell. With this extra new field planted to corn, it required many an extra day's work more than it would had it been an old field. Other crops came in their rotation on our farm just the same as they did everywhere, and had to be taken care of in their respective order.

Then our pigs claimed a portion of our time each day, especially so after harvest, when our barn well gave out and the water for our stock had to be pumped by hand and carted from the house to the yards back of the barn, a distance of 20 or 25 rods. The pumping was the greatest task, not the carting, for when we once got the water in barrels on the wagon it only took a few minutes to make the distance.

Yet a few minutes for this, a few

for dishing out the water, and a good long time for pumping, and getting ready every morning, noon and night, made such a hole in the day's work that nothing else could be accomplished to advantage. This is a chore we have had to do every dry autumn since we began farming six years ago, and I thought it was about time either to dispose of our stock instead of stocking up, or else have different facilities for watering our stock during dry periods.

With plenty of pure well water at the house, we thought it would be foolish to sink our well at the barn deeper and then be to the necessity of lifting the water from the depths of the well by means of a hand pump. After doing some figuring, we discovered that a windmill could be erected over our house well by moving one of our outside doors in our dwelling house to the south.

Any reader can plainly see that our well is close to the house, in fact, almost too close for our own convenience with things situated as they are at the present time. The pump stands on the kitchen platform (the back porch) which made it about as handy for the housewife as it could be arranged without a windmill, while no water now has to be pumped by hand even for house use.

Simply putting in a windmill usually makes very little extra labor, but with us it was different. In order to get water to the barn, a trench had to be dug from the house to the barn in which to lay the pipe. This of course had to be quite deep, so the water in the pipe would not freeze during the coldest weather.

It may seem to the more conservative farmer that we did not have our summer's work well planned, or else we would not have attempted to dig this trench in dry weather, but we did, though the dirt had to be loosened with the pick before being thrown out. We had just finished this task when our first heavy rain storm came, caving in the trench and part of the stone wall under the house where we went under the wall with the pipe to connect with a tank in the dining room. Fortunately the pipe had been laid in the trench prior to this.

One rain storm followed another, until to-day (Nov. 11) one can travel on the land about as well with a row-boat as he can with a stone boat. Corn cutting, wheat sowing and husking came too soon for us to finish our windmill job (filling trench, etc.), so we turned our deaf ear and blind eye to that and went at something else. Nov. 5 found our corn in the crib and fodder in the stack, so if we occasionally have a bright day (all days are good ones) ere long our deafness may be cured and the film removed from our eyes.

ELIAS F. BROWN.

Hillsdale Co., Mich.
(It sometimes seems as though we have everything to contend with at once, when something goes wrong, and our friend's experience is similar to what many of us have gone through at some time in some way. But "all is well that ends well."—Ed.)

HIS TOBACCO CROP DID NOT PAY.

Our recent articles on the culture of tobacco have impelled a Van Buren county farmer to give our readers his experience in that line. He writes as follows:

In 1885 I raised two acres of tobacco in this county. It was a dry year and I had a world of trouble in getting the plants to grow, often working late in the night irrigating them. I succeeded in making them live and they grew and ripened nicely. I harvested the crop before frost came.

About Christmas I stripped it and had 1,000 pounds of leaf. I sent samples to manufacturers of tobacco in Detroit and Chicago; also to parties in Kalamazoo and in South Bend, Ind., but not a bid could I get. Some praised it, but all had either bought or contracted for supplies and did not care to buy. A manufacturer of smoking tobacco said my crop was fit for chewing purposes but was not what he used for smoking. I sent a sample to a maker of chewing tobacco, and he reported that it was not suited to his business but ought to sell well as smoking tobacco.

A jobber in Chicago offered me four cents per pound. I did not sell, but kept it a few years and finally sold it out to my neighbors. When the last pound was gone the last dime had been spent and it seemed to me that I had lost a lot of work; but I was

rich in experience. I shall always think, however, that if a large amount of leaf could be raised here—say some hundreds of acres—buyers would come here after it and a market would be established. Then money could be made in raising it, for I believe that Michigan leaf is as good as that grown in any other northern state.

ORION.

We direct attention to the advertisement of the Adams' Barn Floor Horse Power. It is simple and efficient, and any of our readers in want of such a power should address Smith and Pomeroy, Kalamazoo, Mich.

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UNTRUE AS TO MICHIGAN.

Massachusetts, led by medical men who had but a cursory knowledge of the disease, undertook to stamp out the disease thoroughly. The State spent \$700,000 in the destruction of tuberculous animals and then abandoned the attempt. Michigan also began similar work, but had soon to quit, and the expense to that State was enormous.—Farming.

The above paragraph is entirely untrue so far as this State is concerned. There has not been a dollar appropriated in this State for stamping out tuberculosis. It is true some cattle affected with tuberculosis have been slaughtered, but that has been done by the State Live Stock Sanitary Commission under the general law of the State, which empowers the commission to take whatever measures it may deem necessary to suppress contagious or infectious diseases among farm animals. Under the law referred to hogs affected with cholera or swine plague, horses affected with glanders, cattle with tuberculosis, or sheep with scab, may be slaughtered. There has never been a special commission appointed to look after tuberculosis, or a dollar appropriated for its suppression. The law as passed is still in force, and the commission is conducting its business as it did ten years ago. We protest against Michigan being accused of doing such fool work as has been done in New York and Massachusetts. Those States have thrown away many thousands of dollars in attempting to stamp out a disease which springs primarily from unhealthy conditions. Slaughtering the affected animals, therefore, will not do away with the disease. The conditions surrounding the animals must be changed to accomplish this, and when that is done thoroughly, and in accordance with the natural laws which regulate the health of all animals, then the disease will die out. When this fact is generally recognized, and the money now thrown away in futile attempts to stamp out the disease is spent in informing dairymen and farmers of the sanitary conditions necessary to insure sound health in their live stock, and in compelling those who do not observe them to change their methods at once, the live stock of the country will soon be entirely free from all contagious and infectious diseases. They never will be where slaughtering the affected is the sole reliance for combating them.

For The Michigan Farmer.

DUTCH BELTED CATTLE.

While most people are more or less familiar with this breed of cattle, there has never been any particular boom of them in this country, and they have never become a fashion or fad. These belted cattle of Holland may be said to be the descendants of the aristocracy of that country. In their early history they belonged exclusively to the nobility, and they were bred carefully for the noblemen of Holland, and it is only in recent times that they have found their way into the hands of the poorer classes of Holland.

They were imported into this country a long time ago, but they never seemed to secure any widespread popularity. This may be due partly to the fact that no special attempt was made to breed them carefully in their new home. But today the breed is very popular in Pennsylvania, and in some of the eastern states. Among the old Dutch farmers of Pennsylvania the breed is seen at its best. It is said by them that their thousand-pound cows give an average of ten thousand pounds of milk a year. Such records, if true, place the cattle among the first dairy breeds of the world.

There are probably not many more than a thousand registered Dutch belted cattle in this country, but the number is steadily increasing, and the breeders are doing their best to bring each animal up to the standard adopted by the association. A well-bred cow is not only excellent for dairy purposes, but as a family cow as well. One of the requirements of the association is that every animal registered should be gentle of disposition, which in reality is characteristic of all the Dutch cows. More than this the cows

have a strong, sturdy constitution, enabling them to withstand the severe rigors of cold climates. These two points alone make them superior to the Jerseys for many purposes, and in many localities.

There is no doubt about what the Dutch belted cattle can do in milk and butter making, and their weight is also in their favor. They are also good grazers and feeders. They will contentedly crop meadow land where a more nervous Jersey would grow restless. For an all-around cow either for the family or dairy this is a point worth considering. A wider experience with this breed of animals will undoubtedly make them more popular. Their lack of this is due more to the want of co-operative methods in pushing them forward at agricultural shows and exhibitions. Their peculiar belted color makes them picturesque animals for farms and hill-sides.

Indiana. WILLIAM CONWAY.
(We think our correspondent is a little too enthusiastic in speaking of the good points of this breed of cattle. In general appearance and characteristics we see but little if any difference between them and the Holstein-Friesian. The peculiarity of their markings seems to be the only distinguishing point between the two breeds. The colors are the same—black and white—but the one has the black on its body in broad belts, reaching completely around, giving them a very peculiar appearance. In form, size and general make-up we have failed to detect a single characteristic which would distinguish this breed from the Holstein-Friesian other than the arrangement of its colors. One of them with black spots instead of belts would readily pass as a Holstein-Friesian, and one of the latter with black belts instead of spots would be accepted as of the Dutch Belted breed. We, therefore, believe they are simply a family of the Holstein-Friesian breed, and are not a distinct breed of themselves, any more than a spotted Ayrshire or a red Shorthorn is a distinct breed.)

As to the dairy qualities of the breed, an average of 10,000 lbs. of milk per year is undoubtedly the average of the best, not the average of the entire family. They are undoubtedly deep milkers, but so are the best of the Holstein-Friesians. That point, therefore, is neither a distinguishing nor peculiar characteristic, neither entitling the Dutch Belted to high rank as dairy cattle, nor to be considered as a distinct breed.—Ed. Farmer.)

For The Michigan Farmer.

HIGH BRED STOCK AND FEED.

The professional breeder who is successful in his work relies first upon high bred stock, and second upon proper food for his animals. The first is a matter of selection, or breeding. Anybody with the money can get high bred stock. There are plenty of breeders in the market who are ready to sell the very best to purchasers. Consequently any person who goes into cattle raising or dairying can to-day purchase a herd of the finest animals, and make a start equal to that of any farmer in the country.

But then the equality of the two probably stops. To maintain the standard of the herd just purchased requires something besides money. Nothing but experience and intelligence will keep high bred animals up to their best work. Unless one understands the business the work of generation begins at once, and it is kept up unless something is done to stop it until the high-bred cattle become little better than scrubs. It is estimated that it takes about five months to reduce a first-class herd of well bred animals to the condition of common scrubs in the hands of a careless or ignorant man, while it takes three or four generations to raise scrubs up to a high standard, under the most approved system of breeding, feeding and selection.

The degeneracy of many of our herds is what keeps breeders in the business, for they find that customers are growing, and not decreasing. It is a fact that every owner should recognize and appreciate that feeding plays a most important part in the future success of the herd. There is either improvement or degeneracy all the time. If one cannot keep the animals growing and developing there is a direct loss of money.

It is not such a difficult matter to make a herd maintain its standard of merit. It is quite essential to adopt some simple but correct principle of

feeding. Then by adhering to this with slight modifications the animals will do their best. Economy in feeding is to be observed only in a limited way. When it is a question of purchasing good food, or letting the animals degenerate, it always pays to get the food, even though it cost quite a little.

Corn, grain, corn stover or corn silage, and good clover hay must after all be the basis of our feeding rations. The new foods are all right to supplement these, but they never can take their place entirely. Recognize this once in your system of feeding, and there will be no trouble with the animals in their growing.

Indiana. WILLIAM CONWAY.

IMPORTANT TO LIVE STOCK BREEDERS.

The annual meeting of the Michigan Association of Breeders of Improved Live Stock will be held in the Senate chamber at Lansing, Wednesday, December 21st, beginning at 9:00 a. m. A full program has been prepared, which will be sent in next week. The meetings of the several breed associations will be held on Tuesday afternoon and evening. Reduced rates for these meetings can be obtained on the certificate plan (provided there are one hundred in attendance), by securing certificates when purchasing tickets going.

I. H. BUTTERFIELD, Secretary.

The 19th annual meeting of the Michigan Merino Sheep Breeders' Association will be held in the city of Lansing on Tuesday, December 20. A good attendance is expected, and it is hoped every member who can possibly do so, will be present.—E. N. Ball, Secretary.

Settlers' Rates and Homeseekers' Excursions via Michigan Central.

To many points in the United States special rates are made to land and homeseekers via Michigan Central and its connections. If you are figuring on a trip, write J. S. Hall, District Passenger Agent, M. C. R., Detroit, for full information.

BREEDERS' DIRECTORY.

CATTLE.

J. M. CHASE, Muir, Mich., breeder of registered Red Polled cattle and Poland-China swine. Choice young stock for sale. Prices right.

JOHN LESSITER & SONS, Cole, Mich., breeders of Scotch Shorthorn Cattle and Shropshire Sheep. Stock for sale of both sexes.

F. & E. W. ENGLISH, Clarksville, Mich., breeders of Registered Red Polled Cattle. Andrew Boy, sire and dam imported, heads the herd.

50 SHORTHORN Bulls, Cows and Heifers of best breeding. Examination requested. The A. P. Cook Co., Brooklyn, Jackson Co., Mich.

REGISTERED GALLOWAYS.

A. MATTHEWS, Maple Rapids, Mich.

JOHN C. CHALMERS, Ann Arbor, Mich., Breeder of Registered GUERNSEY CATTLE.

WM. FISHBEEK & SON, Howell, Mich., breeders of SHORTHORN CATTLE from good milking families. Cows and heifers for sale. No bulls except young calves.

A REGISTERED HOLSTEIN BULL 3 years old. Perfectly gentle and first-class in every way. Dam gave over 15,000 lbs. milk in one year. To avoid inbreeding will sell him cheap. B. F. THOMPSON, Detroit, Mich.

J. M. KNAPP, Bellevue, Mich., Breeder of Registered RED POLLED CATTLE. Blooded 3517 in service. Milk yield of dam 33 months, 21,071 lbs.; milk yield of sire's dam 12 months, 10,589 lbs.

BEEF WITH MILK. Herd contains Columbian prize test cows. Some valuable young bulls and cows for sale cheap. If you want SHORTHORNS that will make you money I can please you. CALVIN LOVETT, Otsego, Mich.

CRYSTAL SPRING STOCK FARM.

Jersey Cattle, bred for intrinsic value, individual merit and future usefulness. Rich cream and butter product, coupled with fine form and good constitution first consideration. Stock for sale. O. J. BLISS & SON, Silver Creek, Allegan Co., Mich.

NOTICE what the Poland-China breeder, J. W. Bush, of Wacousta, Mich., says of a yearling Aberdeen-Angus bull which I selected for him: "Chesney is a very fine animal. I do not regret the \$15 in the least, because he is the best bull in this country. Thank you very much for him." Speak quickly for the FIVE BULLS FOR SALE FROM SAME SIRE, CHEAP. CLOVER BLOSSOM FARM, Port Austin, Mich.

HOGS.

A FEW Poland-China Boars of April farrow. Good bone, dark in color, at reasonable prices. Perfect satisfaction. A. O. Bowen, Wixom, Mich.

BERKSHIRE PIGS from stock that is from World's Fair prize winners. Write for catalog and prices. C. E. Falthorpe & Co., Mt. Morris, Mich.

BERKSHIRE Boars and Sows of the Baron Lee strain. Large boned, lengthy fellows. Choice Shropshire rams. J. W. McDowell, Bad Axe, Mich.

DUROC-JERSEY SWINE for Sale.—Spring pigs 7 months old, both sexes, and yearling boar. H. H. MURRAY, Grass Lake, Mich.

Duroc-Jersey Swine. Spring and fall pigs for sale; both sexes. H. D. HALL, Martin, Mich.

FOR SALE.—Large Eng. Berkshires: Longfellow & Wantage strains, King of Hood's Farm, Mass. Prices reasonable. V. E. Hackney, Mt. Morris, Mich.

If you want large, smooth POLAND-CHINAS write me for BARGAINS. WILLARD PERRY, Hastings, Mich.

If You Want a Good Poland-China Cheap it will pay you to write to WM. L. PENNOCK, Hastings, Mich.

Large English Berkshires. Choice pigs of either sex for sale at low prices. MERCHANT KELLY, Woodstock, Mich.

Large English Berkshire Swine for Sale. FRED PARSELL, Flushing, Mich.

"OAK KRAAL" has Chester-White Hogs for sale, from Eastern sires and Western dams, at popular prices. H. G. SELLMAN, So. Lyon, Mich.

POLLED Shorthorns and Shorthorns, all registered in American Herd Book, both sexes. M. R. FREEMAN & SON, Flushing, Mich.

POLAND-CHINAS.—2 June Boars, 2 June Sows, August and Sept. Pigs for sale cheap. E. A. CROMAN, Box 99, Grass Lake, Mich.

POLAND-CHINAS.—Pigs of either sex. Young sows bred; best strains. M. B. Turkey, B. P. R. Cockerels. O. B. ROBBINS, Edwardsburg, Mich.

POLAND-CHINAS.—The first premium herd at State Fair of '98 offers good April boars cheap. Address L. F. CONRAD, Wacousta, Mich.

POLAND-CHINAS at Bargains.—Choice breeding, fine form, strong bone and prolific breeders a specialty. ROBERT NEVE, Pierson, Mich.

POLAND-CHINAS.—Choice lot of spring pigs, either sex. Sired by Prince U. S. and Black Jack, at right prices. H. D. Bishop, Woodbury, Mich.

POLAND-CHINA SWINE from 3 months to 3 years old, bred and for sale by W. C. HOWE, Howell, Mich.

R. M. CROSS, Ovid, Mich., breeder of Victoria swine. Stock for sale. Breeding stock recorded. Reasonable prices. Correspondence solicited.

Special Price on Poland-China Boars of April and May farrow. F. M. Pigeon, Fowler, Clinton Co., Mich.

THE PLUM HILL HERD of large English Berkshire swine, B. P. Rock & S. P. Hamburg fowls. Stock & eggs for sale. C. M. Bray, St. Johns, Mich.

VICTORIAS, all ages, both sexes, of best breeding and individual excellence, for sale at reasonable prices. M. T. STORV, Lowell, Mich.

BARGAINS on serviceable P. C. BOARS. Extra length, heavy bone, good quality; June and July Pigs at fall pig's prices at E. M. EIGHME'S, Owosso, Mich.

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LOCUST LODGE BERKSHIRES.—Large, lengthy, English type. Bred from noted prize-winners. Both sexes, all ages for sale. Write for prices. F. A. BYWATER, Memphis, Mich.

POLAND-CHINAS.—One two years old and three yearling boars. Large, good bone and quality. Young stock of either sex. Write L. W. BARNES, Byron (Shiawassee Co.), Mich.

POLAND-CHINA BOARS of extra quality and breeding for sale at Hickory Grove. A. A. WOOD, Saline, Mich.

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FOR SALE. Poland-China Show Boar; Spring and fall pigs. Sows bred. Breeding and individuality right kind. Also choice Merino rams. G. W. INMAN & CO., Ypsilanti, Mich.

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\$8.00 BUYS A first-class Chester-White pig old enough for service; fall pigs \$5.00 per pair; a few choice brood sows \$12 to \$15, bred if desired. WM. W. BALOH, Deford, Mich.

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The Horse.

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DOES THE HOOF OF THE HORSE EXPAND IN MOTION.

An English authority, writing upon horse-shoeing, says on this subject:

The theory of expansion—for over a hundred years the question has been debated—does the foot of the horse expand during progression when the weight of the animal is placed upon it, and contract when the weight is removed?

Careful, honest men, sound, practical men, highly trained, scientific men have ranged themselves on each side and assertion and denial have alternated. Measurements were made by means of callipers by tracings on paper, by tape and string. Great care was taken by all sides to measure the foot off the ground and on the ground. What was the result? Some said the foot on its ground surface does not expand or contract, others said it expands, whilst another party asserted that it contracted.

In recent years the question has been tested in Germany by Professor Lungwitz and in England by Veterinary Captain Smith. These observers used apparatus with fine electrical adjustments which leave little room for doubt as to what really takes place. Their work shows that the old observers were possibly all correct and that the structure of his foot has a good deal to do with the movement. Some feet expand, some contract and some are neutral. A good sound foot, the frog of which takes a bearing on a level surface does expand when the weight of the horse rests fully upon it. If, however, the heels are high and the frog takes no bearing then the hoof contracts. Between these two extremes there may be a neutral state. Of course this movement is interesting and important in relation to horse-shoeing only as it affects the bearing surface of the hoof. The movement at the coronet is too apparent to be the subject of dispute. The expansion theory is now settled and the degree of expansion is so slight that it may be safely ignored as a factor in the art of shoeing. The expansion is about equal in extent to the thickness of a sheet of writing paper.

What a lot of erroneous practice has been based upon this theory! Shoes to cure all evils by permitting expansion were invented. Some had hinges or joints at the toe, some were made in a series of movable sections. Others, again, attempted to give freedom to the foot by having the nails placed on one side only. Still others, who recognized that loose shoes were too common with unilateral nailing, attempted to allow expansion by keeping all the nails well forward. Miles, who wrote on the subject some 30 years ago, argued that if there were expansion of the hoof there must be movement of the arch of the sole at the same time. He was right. This is a little, but not so much as to warrant his advice that the sole should be pared so thin that it might yield easily.

THE MORGAN HORSE.

Although the demands of the horse market have been steadily drifting towards specialties the farmer, ranchman and residents in cities and towns, excepting a wealthy class able to buy the ultra-fashionable horses, of which the standard-bred families furnish the largest supply, can find in the Morgan blood qualities that are highly satisfactory. The drafts can pull heavier loads, but are too slow and unwieldy for anything but extremely heavy work in cities. More speed is found in trotting-bred families, but for all-day work and work every day, in the plow, wagon or light harness, or under the saddle, with plenty of speed and wonderful endurance, courage, gentleness and intelligence, no family of horses, outside the trotting-bred, can equal the Morgan. Wherever an all-purpose horse is needed horses of this breed will be found equal to requirements. It is said that much more attention is being paid to the systematic breeding and perpetuation of the Morgan horse than there was a few years ago and that the breeders are culling out and improving their herds judiciously. But such herds, as has been said, are still small.

The Journal does not know that there is a stallion of the Morgan blood in Texas. To the farmer having a few

good, large mares the services of a horse of that blood would be worth very much, for, as was said in the Journal's former article, one of the most valuable characteristics of the family was that of strongly impressing itself upon its progeny. This propensity belongs also to some of the best of the trotting-bred families, but, unfortunately, while there are a few stallions of such families in Texas, they are far less in number than the requirements of so large an area as that of Texas demand.—Texas Stock and Farm Journal.

Such articles as the above are quite common in agricultural journals, and are practically worthless when the subject of the different breeds of horses is under discussion. As a matter of fact, there is not a single descendant of Justin Morgan alive to-day, which has a record of any importance as a sire or for speed, that does not carry more of other blood than of the original Morgan. The family is only a reminiscence, and the wonderful stories of their great speed and powers of endurance are simply legends which grow with the years. Just what constitutes a Morgan now we cannot say. We find that any horse with a trace of so-called Morgan blood, through either sire or dam, is claimed to be a "Morgan." There may be seven-eighths, or fifteen-sixteenths of other blood in its veins, but the drop of Morgan outweighs all the rest, and the good qualities of the animal are ascribed to its presence. It is simply a humbug to talk of Morgan stallions and mares. We have seen so-called Morgans of all sizes and descriptions. Their conformation and characteristics were as various as the animals. In discussing their breeding, the owner would keep to the sire's side entirely if the Morgan blood came through that line, and to the dam's if it came through her. All out-crosses were ignored. They were not grade or part blood Morgans, but Morgans. And they are undoubtedly as good as any others Morgans living.

HORSE GOSSIP.

Nominee, 2:17½, won a two-mile race at St. Petersburg, Russia recently in a driving snowstorm, trotting the two miles in 4:43.

The New England Trotting Horse Breeders' Association cleared a profit of over \$14,000 in their two meetings last season.

Grattan, by Wilkes Boy, is the only stallion with two 2:08 performers at 11 years of age. Grattan Boy, 2:08, and Palmyra Boy, 2:07½, are a credit to him.

Klatawah, 2:05½, bay pacing colt, 3, by Steinway, dam Katie G. by Electioneer, was sold recently to James Butler, of New York, for \$7,000. He is the champion pacer for his age.

Five head of thoroughbred yearlings, the get of Ormonde, the imported stallion for which W. B. McDonough paid \$150,000, were sold at auction on the 22d of November at San Francisco. They were all fillies, and brought \$2,300, \$900, \$550, \$1,100 and \$700, respectively. The prices, while fair, were not regarded as satisfactory.

The report comes from England that hereafter colts with docked tails will not be allowed in show rings there hereafter. We hope the time is not far distant when a docked tail will disqualify any horse from competing in the show ring. It is a cruel, useless, and indecent practice, contrary to the dictates of good sense and decency, and can only be defended on the plea that it is "fashionable."

Star Pointer, 1:59½, the fastest harness horse in the world, was sold at auction in New York on November 21st for \$15,000. He went to Hon. W. J. White, of Cleveland, ex-Congressman, and proprietor of a stock farm near that city. His previous owner, James A. Murphy, purchased him in the same ring less than two years ago, bidding him up to \$15,600. At that time his mark was 2:02½.

Pray Tell, 2:09½, by Axtell, a chestnut gelding six years old, recently sold at auction for \$5,100. He was purchased by Robert Bonner, and consequently will not be campaigned again. Pray Tell is a dark chestnut horse, 16½ hands, and shows great substance. While a great race horse, he is reported to be one of the best road horses in the country. His dam was Jean Look by Look, a son of Nutwood.

A Texas judge was robbed of a horse not long ago, and the thief, being apprehended, was brought before him for trial. The judge eyed the prisoner

with deep satisfaction for a minute or so, and then delivered himself of the following: "Owing to a personal prejudice, the court will not hear this case. It will be tried by the balliff, who will find a verdict in accordance with the facts. In the meantime," he added, impressively, "the court will go outside and bend a rope and pick out a good tree."

Frank Caton, who has been abroad a number of years training and driving trotters in Russia, is at home on a visit. He has been remarkably successful with his string of trotters this season, winning 266,000 roubles. The phenomenal filly, Cleopatra, by the American sire Prince Warwick, out of an Orloff mare, won thirteen straight races in her three-year-old form. Mr. Caton reports the interest in harness racing as on the increase in Europe, with the American trotter in the lead.

At an auction held in Madison Square Garden, New York city, the past week, the great young trotting stallion Crescens, 2:09½, was purchased by the Kal-amazoo Stock Farm, of this State, for \$14,000. Crescens is a four-year-old, a chestnut, rather rough looking, with straight neck and drooping rump. While plain looking, he is strongly built, and has the appearance of being able to stand hard work. His sire is Robert McGregor, son of Edsall's Hambletonian, dam Dority's Mabel by Howard's Mambrino. Mabel is also the dam of black Nightingale. The price paid for this colt is a high one, and yet it may prove a better investment than many of the cheap ones sold at the same time.

A report comes from Grand Island, California, to the effect that those who are engaged in the sheep business are suffering great loss by the death of sheep that have foundered on wheat. The ground of the stubble pasture is covered with wheat which was blown out by the north wind, and the feed is exceptionally fine. When the sheep were turned upon the pasture they ate so much that many of them foundered. It is no unusual occurrence to find thirty or forty dead sheep in a heap. Wheat is very apt to founder any animal that is allowed to eat all it can. The grains are imperfectly masticated, and swell in the stomach frequently with fatal results. We have known a cow to die from the same cause.

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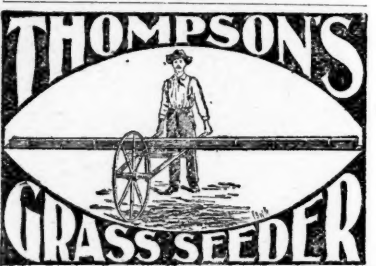
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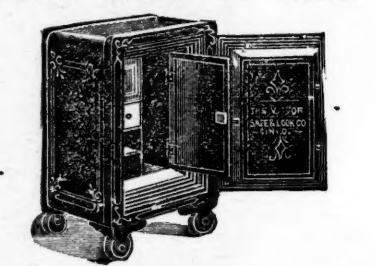


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	London accommodation, etc.	* 9:05 am

Leave	EAST VIA FORT HURON.	Arrive
* 7:55 am	Port Huron F. & P. M., north	* 9:40 am
* 12 noon	Toronto, Montreal, New York	* 2:00 pm
* 1:20 pm	Pt. Huron F. & P. M., north.	* 6:00 pm
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Address all correspondence to Michigan Farmer, Detroit, Mich.

SHEEP AS RENOVATORS OF THE SOIL.

There are large areas of land in this State which, if it ever becomes of any value to the agriculturist, will be through the use of sheep as renovators of the naturally sterile soil. If once such land can be got into shape to sustain sheep, the question of its ever becoming of any use to the farmer is settled. With sheep its fertility will increase every year, and consequently its ability to produce feeding crops will grow also. We regard clover and sheep as the main reliance of the farmer upon very light soils. Once clover can be grown, there can be no fears of any crop suited to the section not succeeding. We say this in answer to a correspondent in Clare county, who has been running a farm with a very light soil, and growing considerable crops of potatoes. He has kept little stock, and he is finding it a difficult matter to keep up the yield of his crops. We believe he should invest in a few sheep—breeding ewes, of course—and maintain a flock hereafter, whether wool or mutton is up or down. They will help him keep the fields free from weeds and sprouts, and they will turn into valuable commodities what would otherwise go to waste on the farm. The cull potatoes, not worth while attempting to market, will bring a better price per bushel when turned into wool and mutton than the best ones did. And while the sheep are doing this they will also be increasing the ability of the land to produce crops. When their wool or mutton is ready to ship it will not cost one-half the crop to transport the other half to market. A pound of good wool is worth nearly as much as a bushel of potatoes. You can readily figure out the cost in transportation between the two commodities. When there is a bunch of lambs ready for market there will always be a buyer after them. If not, they can be driven to the railway station and shipped to market with but little trouble.

While the sheep will do so much on the light sandy soils of this State, they will be found equally as valuable on broken and rough lands which cannot be put into cultivated crops. There is no other manner in which such lands can be so profitably employed as in maintaining a flock of sheep. The returns are certain, and the labor in caring for them during the summer and fall months is very light. A cheap shelter during the winter months, arranged so as to provide the flock with good water, a little grain added to the straw, corn-stalks, cull beans, wheat screenings, cull vegetables, etc., will carry the flock through the winter months and keep it in good shape.

A flock of sheep on a farm is a necessity to its economical management. It is a factory running at all times turning into valuable cash products the unconsidered trifles which would otherwise go to waste on the farm. A flock of sheep is like a savings bank—it is a safe investment, and always pays good interest on whatever is put into it. Make a start at once, and give the sheep an opportunity to help you out of your difficulties.

INFLUENCING THE SEX IN SHEEP.

From time immemorial, it has been a study of great interest to mankind to determine, if possible, the law of conditions that influences the sex in our domestic animals, and at present, so far as being able to lay down a fixed law, or even to offer a reasonable hypothesis, we are practically as much in the dark as ever; the law of the sexes is one that science has yet to solve. Yet, while no finite solution has been developed, careful study and experiment on the part of some of our leading stock growers, has, seemingly, established the fact that it is possible to influence, to a certain extent, at least, the sex of the progeny of the sheep by observing certain features at or before the coupling time.

Careful investigation has seemingly proven it to be a fact that the breeder can influence the sex of the lambs by observing the age of the breeding sheep and allowing himself to be governed thereby. Mr. Henry Stewart,

the veteran writer and well-known authority on stock matters in general, and especially sheep, gives some interesting facts in one of his recent writings, by which it seems to be without doubt a thoroughly established fact that the sex can be controlled to a considerable extent by selecting rams of certain ages; that is to say, an old ram will produce a majority of males while the progeny of a young ram will be largely females. To bear out the theory Mr. Stewart cites a notable instance: One flock of ewes was mated to a 4-year-old ram, and out of 85 lambs produced by him, 64 per cent. were males and 36 per cent. females; a second flock was mated to an 18 months old ram: out of 111 lambs, 31 per cent. proved to be males and 69 per cent. females. Or in other words: The first flock mated to the 4-year-old ram produced 54 females and 31 males; the second flock, headed by the yearling ram produced 35 males and 76 females.

The result of this experiment seems to argue that one should mate extremes in order to produce a predominance of either sex. To what extent one could carry the experiment in mating extremes and secure satisfactory results is a matter that can be determined by experiment only. I do not believe, nor do I understand that the promoters of the theory consider that they have solved the problem of the determination of the sexes. It seems very evident that the result of mating extremes, which has been thoroughly tested by carefully conducted experiments, both in this country and in France, is the result of some circumstances that are really secondary to the cause itself. However far it may be from the real solution of the matter, it is still interesting to know that many of our most thorough breeders are of the opinion that it is really a fact that one can in a way control the sex of the progeny by observing proper precaution at coupling.

To what extent this theory will prove valuable to sheep growers in general is a matter that must of necessity be largely governed by the wants and wishes of the breeder. If the farmer is looking for good feeders and believes that the male sex will answer his purpose the better, then it of course follows that the ram lambs are the ones that he would wish to predominate in his flock. In many ways it will prove to be a matter of much value if the breeder can influence the sex of his stock to a more or less extent.

C. P. REYNOLDS.

MORE SHEEP.

An Illinois journal, published at Bunker Hill, has just woke up to the possibilities of the sheep industry in the United States, and publishes the following enthusiastic statement regarding the business:

"Has it ever occurred to you that farmers of the United States stand more in need of sheep than of any other kind of live stock? Whether it has or not does not matter much, but it is so, nevertheless. With a population of probably over 70,000,000 people, we have only one sheep to every two inhabitants. The average fleece in this country weighs less than five pounds, and this produces, when scoured, scarcely two pounds of wool in a condition to be spun or woven into cloth. If our people were compelled to depend on our sheep for their clothing we would be a badly clothed people."

"It probably requires as much as one-third of the whole number of sheep in this country to supply the demand for mutton, so the prospect for over-production does not seem to be so very good. If we had 100,000,000 sheep in this country instead of less than half that number, the products from them in the shape of wool and mutton could be used to good advantage. There is no good reason why we should import either wool or mutton except that our sheep breeders are not alive to the importance of the industry and are not making the proper effort to increase the growth of the business."

"It is possible for the up-to-date sheep owner to produce from seven to ten pounds of wool per head. It sells from 19 to 20 cents per pound in the dirt. The sheep that produces this fleece may raise a lamb which will sell anywhere from \$2.50 to \$4 before it grows a fleece. There is not a farm where this paper circulates that is above water that would not be better for having a few sheep on it. There is plenty of room for beginners to engage in the business."

FLOCKS AND FLEECES.

The total wool clip of Montana for 1898 is estimated at 22,500,000 pounds, while many good judges estimate it at 25,000,000 pounds. Most of it has gone to the market, there being but from 2,000,000 to 3,000,000 pounds left in the state. The price ranges from 14 cents to 18 cents, averaging 15½ cents. Montana has been free from scab until lately, but within the last few weeks there have been serious outbreaks in at least half a dozen counties in the state, due, it is believed, to a laxity in the state regulations in importing sheep.

In advising farmers to keep more sheep, the National Provisioner says: "Five acres of land will take care of twenty-five sheep and their lambs during the summer, and during winter no farmer will miss what they will eat. Their fleeces will pay about \$1 apiece, and their lambs a year old, if properly cared for, are good for \$3. If fattened to 100 pounds weight and put on the market they are good for \$5 by the carload. It has been figured out by an authority that, with oats and corn at 30 cents a bushel and oil meal at \$1.25 per hundred, a lamb from the time that it is two weeks old until it reaches 100 pounds, which is in the eleventh month, will not consume more than \$1.35 worth of grain. In our opinion, the time is not very far distant when, with the scarcity of beef and with the high price which cattle command, we will have to resort to eating mutton. There will also be a great export demand for the article. We have too much corn, too many hogs, too few sheep."

Prof. Thomas Shaw, of the State experimental station at Anthony Park, Minn., has arrived at the following conclusion with regard to sheep in that state: That it is possible to so fatten home-grown lambs that the finish will be of a high order without unduly loading them with fat; that bran, oats, barley and oilcake in the proportion of 3, 3, 3 and 1 parts, respectively, with hay and roots, is well adapted to the production of such meat; that it is admirably adapted to the production of cheap mutton. Prof. Shaw has also been experimenting in the growing and fattening of swine. The hogs were divided into sections and fed different foods. It was demonstrated that a diet in which oats predominated is not the most suitable. Barley was not found so good as corn. The average cost of making 100 pounds of increase where corn was fed was \$1.77; of barley, \$1.90. The aggregate net profit of feeding twelve pigs for 112 days was \$18.09, an average of \$1.51. Oats was found to be the most expensive, relatively, of all the foods.

The following item appeared in the Detroit Journal the past week: "The sheep industry in this county, always good in the past, is becoming more extensive each year. Hiram Johnson, of this county, a clerk in the agricultural department in Washington, who is visiting in Venice township, went over the south half of the township and took down the name of every farmer with the number of sheep each one intends to carry over the winter. The exact total is 13,790. The sheep in Venice are raised from those imported from England. The heaviest raisers are Ed. Johnson with 3,300 sheep, Bingham & Son with 2,000 and B. Calkins with 1,500. During the next few months 55 carloads with 16,500 head of sheep will arrive in Venice township from England. The amount of money required to feed this large flock will be \$15,000." The statements made show how awfully funny a reporter can be when he writes about sheep. Venice seems to enjoy a unique position among the towns in this State, or any other for that matter. She has no flocks except those bred from imported English sheep. She is importing 16,500 head from that country, more than the balance of the United States has imported in the past five years, and this little bunch is to be crowded into 55 cars, or 300 head to a car. But a reporter can do more in ten minutes with his pen than all the sheep men in Venice can accomplish in ten years. It shows what a vivid imagination and an ignorance of facts can do when given an opportunity. We doubt if a single sheep will be imported into Venice from England in the next six months.

The demand for good breeding sheep on the range was never better than it has been this year. Around Billings, Mont., about 2,500 head of thoroughbred rams have been sold this season, and at prices which, in most any other

year, sheepmen could not afford to pay. Shropshires have been purchased more than any other kind, though some sheepmen preferred Lincolns or Rambouillets. Whatever misfortune may overtake the sheepraiser in the future, one thing is certain, he will have a better class of sheep to sell and will find a good outlet through mutton markets, even if the wool price is low. It is sometimes an advantage to have an ax that will cut two ways.—Drovers' Journal.

There need be no fear of sheep going to a low price within the next few years. The price of wool is good, though not what it would be were it not for the vast supply in the store rooms of manufacturers, and will probably become better before the spring clip is on the market. But the important fact to the farmer who is engaged in raising sheep is the large and growing consumption of the meat produced by the flocks of the country. Until recently the lambs formed an insignificant feature in the meat markets of the country. Only the sheep that had been clipped several years and were supposed to have become unprofitable as wool producers were offered upon the mutton market. Now in spite of the fact that all the sheepmen are anxious to increase their flocks to the full capacity of their ranges or farms, there is so strong a demand for lambs that the desire to increase must be greatly retarded, and the demand is one that must increase instead of diminish. The conditions favor profit making by farmers engaged in the sheep industry, for they can raise their own feed and fit the lambs for market at little expense, at less expense in Texas than in any of the other states.—Texas Farm and Ranch.



When we read of an elephant hunter who has been trampled to death in the wilds of India, we wonder at the foolhardiness of a man who will travel round the world and endure all manner of hardships, in order to court death in a far away jungle. A man does not have to make a journey to India in order to court death in a manner equally foolhardy.

Thousands of hard working men are daily courting death in a much more certain form, without ever leaving their native villages or cities. They are the men who neglect their health. They are the men who court death from consumption, or some other deadly disease due to improper or insufficient nourishment. The man who suffers from bilious or nervous disorders, who has a weak stomach and an impaired digestion, who has lost the power to eat, rest or sleep, and who fails to take prompt steps to remedy these conditions, is courting death in the guise of some fatal malady. Dr. Pierce's Golden Medical Discovery cures 98 per cent. of all cases of bronchial, throat and laryngeal affections that lead up to consumption. It soothes the cough, facilitates expectoration and restores the lost appetite. It corrects all disorders of the digestion, makes the assimilation of the life-giving elements of the food perfect. It invigorates the liver and purifies and enriches the blood. It is the great blood-maker, flesh-builder, nerve tonic and restorative. It is the best of all known medicines for nervous disorders. Dealers sell it and have nothing else "just as good."

"I had a bad cough and got so low with it that I could not sit up," writes Mrs. Mittie Gray, of New London, Union Co., Ark. "Our family physician told my husband that I had consumption. I had pains through my chest and spit up blood. I took your 'Golden Medical Discovery' and it cured me. It saved my life."

HELP WANTED. Energetic men to sell Lubricating Oils and Greases. Address CENTRAL REFINING CO., Cleveland, O.

BREEDERS' DIRECTORY.

SHEEP.

FOR SALE. Thirty young thoroughbred SHROP. EWES. FRANK H. LEMEN, Whitmore Lake, Mich.

RAMBOUILLET, U. S. A.—100 rams and 100 ewes, registered, for sale. THOMAS WYCKOFF, importer and director of breeding, Orchard Lake, Mich.

LINCOLN Sheep and Chester White Swine. Either sex, and all ages for sale. Write or come and see me. A. H. WARREN, Ovid, Mich.

FOR SALE.—14 choice Oxford-Down Ram lambs, registered. Also registered Tamworth swine and Red Polled cattle. Farm ½ mile from city limits. EDWIN O. WOOD, Flint, Mich.

SHROPSHIRE HALL STOCK FARM has on hand a few choice imported yearling and two-year-old rams, imported ram lambs and yearling and two-year-old American bred ewes and rams. Personal inspection invited. L. S. Dunham, Concord, Mich.

Farmers' Clubs.

CONDUCTED BY A. C. BIRD.

All correspondence for this department should be addressed to A. C. Bird, Highland, Mich.

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—E. J. Cook, Owosso.
Vice-President—Mrs. E. L. Lockwood, Petersburg.
Secretary—C. M. Pierce, Elva.
Directors—W. H. Howlett, Fansville; C. J. Phelps, Damon; F. M. Whean, Vernon; A. L. Landon, Springport; H. Gaunt, Highland; A. P. Green, Eaton Rapids.

All communications relating to the organization of new clubs should be addressed to C. M. Pierce, Elva, Mich.

Association work for January: Consideration of reports of delegates from State Association.

THE MICHIGAN FARMER AND CLUB WORK.

The best possible work the friends of the Farmers' Club movement can do at this time is to see to it that The Michigan Farmer is placed regularly in the hands of every farmer's family they can reach. It will be the most effective Club work conceivable. Wherever The Farmer goes Farmers' Club influence extends, and a new accession to the movement is made. The Farmer has richly earned this loyal support, but this is not the argument that we are now pleading. We are asking every Farmers' Club of Michigan and every Farmers' Club worker to push this matter in the interest of Club work, and because we believe a point has been reached where nothing else can take its place.

Nearly a score of the most active supporters of the Farmers' Club movement contribute in this issue voluntary testimonials of appreciation for the work done by The Michigan Farmer. These men have kept in close touch with the Farmers' Club movement from its very beginning. They have watched its development. They know whereof they speak. Their conclusions will be accepted by every Club member in Michigan. Each writes independently of the others, not knowing what the others thought, nor that they were to express their thoughts in parallel columns. And yet they speak as one man; it is the concert of loyal devotion to a great movement. To a man they unite in according to The Farmer a large measure of credit for the magnificent results achieved. These opinions, coming as they do from all portions of the State and from men of the highest standing, both locally and in State affairs, may be taken as fairly representative of the sentiment throughout the State.

Thirty thousand Farmers' Club members in Michigan are interested in the work of the State Association. Thirty thousand loyal members are united in support of the Association measures. The question of a united organization has at last been solved. From every one of the three hundred clubs, whose reports reach this office, come assurances that there is no longer any division of opinion regarding the immediate work in hand. The one desire is to so strengthen the organization that the success of its work before the coming session of the legislature will be assured. Every one of its vast membership is anxious to do something to insure the success of that work.

There are yet six weeks before the assembling of the legislature. Six weeks before the really difficult associational work of the clubs will begin. These six weeks should be employed in strengthening the organization at every possible point. It is during these six weeks that The Michigan Farmer field work should be done. Just at this time every farmer's family in Michigan is deciding upon their reading matter for the coming year. A word from a Club member will many a time result in placing upon the list The Michigan Farmer, and a new friend of the Club movement will be thus secured. Every Club member can in this way do much to insure success in the coming winter's work.

All this is important and should not be neglected; but it is still more important that the work should be done systematically through the local clubs. In this work the quaint saying that "Everybody's business is nobody's business" is peculiarly pertinent. On this account let each club see to it that at its next meeting this

Michigan Farmer field work is placed in the hands of its most energetic worker. Let this worker at once report his selection to The Michigan Farmer, Detroit, Michigan, and he will promptly receive full instructions and every conceivable encouragement from the publishers of the paper.

Every club which takes hold of this matter loyally will not only greatly assist the Association, will not only do much toward insuring the success of the Club measures before the legislature, but will also at the same time be doing the one thing of all others which will build up and make secure its own high standing in its own locality.

CONVENTION NOTES.

Nearly every club in the State will be represented.

It will be the most profitable meeting the Association has ever held.

The number of lady delegates promises to be greatly in excess of last year.

Every detail in the entire three days' session has been most carefully arranged by Secretary Pierce.

The entire Wednesday afternoon session will be devoted to business. This is as it should be. It will give ample time for proper consideration of every measure which may come before the Association.

The printed programs sent out by Secretary Pierce fail to make mention of the work for Dec. 15. That entire day will be given up to an informal visit to the several State Institutions located at or near Lansing.

The twenty-minute addresses on the work of the six great educational institutions of the State, by their respective presidents, followed by the question box on State Institutions, will be a most valuable feature of the convention.

Programs and blank credentials have been mailed to the corresponding secretary of every local club on Secretary Pierce's list. If any club has not received them by the time this issue of The Farmer reaches its members the corresponding secretary should write Secretary Pierce at once.

WHAT THE MICHIGAN FARMER HAS DONE FOR THE FARMERS' CLUB MOVEMENT.

Some Voluntary Expressions From Club Workers.

FROM PRESIDENT COOK.

The Michigan Farmer is ever ready to advance the interests of the agriculturalists of Michigan. It saw the opportunity and opened its columns to develop the club movement. It has been the means of uniting the various clubs of the State, of marvelously increasing their numbers by disseminating knowledge of their existence and good work; and, in a word, has been the power that has made possible the wonderful growth of the Farmers' Club movement. Without its indispensable help the State Association would have been shorn of its honors ere this, and more than likely would have died in its infancy.

The Michigan Farmer is our stay and hope. It is our organ, and every family interested in the Farmers' Club movement owes it to themselves and their best interests to in every way support this best of farm papers. And more than all do they owe it to the organization in which they are interested, to leave no stone unturned to place The Michigan Farmer in every Michigan home.

SECRETARY PIERCE.

Probably there is no agricultural paper in the United States that has done so much for the farmers' organizations as The Michigan Farmer. Especially is this true of its work for the Farmers' Clubs of Michigan. Since the first organization of the State Association the publishers of The Michigan Farmer have been in the foreground in everything that would tend to increase interest in the movement. The large circulation of the paper in the best agricultural districts of the State has brought the club movement before our best citizens in such a way as to make every intelligent reader of its columns a warm advocate of club work. To have brought and kept the work before as large a number of people through the ordinary methods of advertising would have cost thousands of dollars. As it is, it has not cost the local clubs of the State Association one cent. The publishers of The Farmer have done this great work alone, and at a cost to themselves of thou-

sands of dollars. The one thing due from every club member in return is loyal support of The Michigan Farmer, first, last, and all the time.

EX-PRESIDENT DANIELLS.

In reviewing the work of the State Association of Farmers' Clubs, one naturally inquires, What are the agencies which have contributed to the securing of such magnificent results? Among these agencies, and standing well in the lead, must be placed that able agricultural journal, The Michigan Farmer, the publishers of which have so generously placed its columns at the disposal of the Farmers' Clubs of the State; and, as an act of proper acknowledgement and simple justice, every club member should constitute himself, or herself, an active and earnest committee of one to see that at least every farmer's family in his neighborhood is a subscriber to this valuable paper.

An acquaintance with its columns for many years has induced in me the firm belief that no farmer can afford to be without the weekly visits of this most ably conducted state journal of agriculture, devoted to the interests of the farmer and his family.

VICE-PRESIDENT LOCKWOOD.

* * I cannot close without adding a word of appreciation for the noble work done for the Farmers' Clubs by The Michigan Farmer during the past year. The Farmer should be in the hands of every club member.

EX-SECRETARY WELLS.

In order to fully appreciate the work done by The Michigan Farmer for the Farmers' Clubs, it is necessary to understand the condition in which the clubs found themselves at the close of the third annual meeting of the State Association, February, 1896. At that meeting it was evident that the clubs were in a chaotic state which is nearly always present at the beginning of every social movement of importance. It was recognized by all that there was a great work for the clubs to do; that they should act together; but how they could be united was the problem.

It was at this point that The Michigan Farmer volunteered its assistance. It has since served as a connecting link between the local clubs. The results have far exceeded expectations, until to-day the union of the local clubs is so complete that in spite of the immense size of the organization it is less unwieldy than a dozen clubs would have been at first.

If anyone doubts the value of The Farmer to the clubs, let him try to imagine how they would get along without it. What would the program committee do without it? How many are there among the younger members, and the older ones too, who do not resort to the Association department for assistance when it comes their turn to take part in the exercises? It is a source of inspiration and encouragement to all. Its columns have been a standing advertisement for the organization. This has been by far the most effective of the means for the establishment of new clubs.

Surely The Farmer has done its work well and is deserving of the highest praise of every club member in Michigan.

ASSOCIATION DIRECTOR GAUNT.

In looking over the many papers printed in our State I find no other so well suited in all its various departments to the needs of the farmer's family as The Michigan Farmer. Foremost among these comes the Farmers' Clubs Department, which, aside from its able and pointed editorials, awakens new ideas in progressive farmers. Then, too, the Grange Department, which is of no less value, is a welcome visitor each week, reporting, as it does, the discussions of their meetings. Then there are the many valuable hints on gardening and fruit raising, all both interesting and profitable. Of the Household, all who take The Farmer can testify to the worth of its articles, both grave and gay, which are so eagerly sought after by the "gentler sex" in our homes; and if the "sterner sex" do not find this so much to their taste as many other matters, they are never averse to testing the dainties prepared from its valuable recipes. The care and accuracy in the makeup of its columns, its clean and moral tone, make The Michigan Farmer the best of papers for all classes of careful readers. It surely ought to be in every home.

HON. F. M. SHEPARD, STATE REPRESENTATIVE.

If it is a fact that the Farmers' Club movement has been of any benefit to the farmers of Michigan (and I do not

believe any sensible person can have a doubt of it), then all must admit that it is to the influence of this great farmers' weekly, The Michigan Farmer, that a great measure of the credit is due. While it was possible to make a start in the right direction without its active assistance, it has been the work of the Farmers' Club Department, so capably and intelligently rendered, that has given to the movement a standing and publicity, without which its great work could never have been accomplished. To The Michigan Farmer, then, let us accord both the credit and support its just due.

HON. I. R. WATERBURY, STATE REPRESENTATIVE-ELECT.

I believe that first in importance among the factors of success in Farmers' Club work stands the magnificent work of The Michigan Farmer. Without the powerful support of that organ, bringing, as it does, the local clubs into such close touch with one another, and proclaiming to the world in a manner which commands attention the honorable principles and earnest purposes of the organization and its loyal members, our work would indeed have been insignificant as compared with its present importance.

Let us then give The Farmer that credit which is so justly its due; for even a little thought must convince the most skeptical that without its aid we could not possibly have reached our present state of organization or capacity for efficient work. In thus "rendering unto Caesar the things that are Caesar's," we, as club workers, will again show the true spirit of justice which is the corner-stone of our organization.

GOOD WORDS FROM MACOMB COUNTY.

At the Association meeting in 1896, The Michigan Farmer management offered to open a department devoted to the interests of Farmers' Clubs. This proposition was gratefully accepted; and presently the retiring president of the Association took charge of the work. Of his conduct of the responsible position we have nothing but praise.

Availing themselves of this opportunity, the Farmers' Clubs have an organ, and better. They become well advertised. The new men become well known and trusted. The club opinions are considered by many, and from this thinking much good has already come. The clubs are felt as a force in public affairs.

The Michigan Farmer is the fulcrum across which the united weight of the clubs may be exerted. If Michigan ever obtains equitable tax laws, the clubs will be to thank for having started the movement. Perhaps, yet, they may get wise forestry laws, State aid for highways and the like. The Michigan Farmer has been of great help to the clubs. We all hope the relation will prove profitable to the paper.

MACOMB CO. H. B. CANNON.

FROM LOYAL JACKSON COUNTY.

The success of the Farmers' Club movement in this State is due largely to the work of The Michigan Farmer, especially since the inauguration of the Farmers' Club Department. Farmers' Clubs have proven themselves a grand benefit to the agriculturalists of this and surrounding states, but without some connecting medium to bring the clubs together there would not be the union of thought and action that exists at the present time.

The Farmers' Club Department has established its reputation as being just what was needed. It gives us the verdict of a vast number of clubs on the associational questions. We are likewise benefited by the many excellent editorials, as well as instructive articles by leading club workers and progressive farmers of the State.

Let us never underestimate the grand work that is being accomplished by The Michigan Farmer, nor the loyal support that is its due from every club worker in Michigan.

JACKSON CO. C. J. REED.

FROM ONE OF THE PIONEER CLUBS.

The present is a period of organization. It is as important that the farmers should organize as any other class. The Farmers' Club movement is the latest appeal to their good judgment and it has a wide outlook of promise. It means the promotion of sociability, intellectual quickening as mind encounters mind, the development of the art of cogent and forceful utterance and the securing of a unity of view and well directed action.

I think The Michigan Farmer, in devoting a department to this movement, is doing an inestimable service

to the farmers of the State. Its publication of reports is as the combining into one grand Farmers' Club meeting the many such, with something of the stimulus and profit there would be in bringing so many members together in discussion and exchange of views.

Oakland Co. WM. S. BUCK,
FROM A CLUB ENTHUSIAST.

The question which presents itself to me is, Why has the Club movement been so much more of a success in Michigan than in any other State? We find three reasons:

First, It has been better advertised and the advantages emanating from the clubs brought more closely home to the people most affected, and their interest enlisted.

Second, Our fellowship of clubs, or State Association, which, by keeping us in close relationship, each fully informed of the other's actions, gathering encouragement from one another's successes, and also in encouraging systematic co-operation in the securing of needed reforms, has been a mighty factor in placing Michigan clear at the front as a Club State.

Third, The seed was sown on good ground, well cultivated, bristling with fertility, and all that was needed was the germ rightly planted and judiciously tended, to develop into that compact, yet ever branching, young monarch of Michigan, Our Farmers' Club Movement.

For the first two conditions, which led to our wonderful success, I consider that the credit belongs to The Michigan Farmer. And who will say that the many years of faithful effort on its part to improve the farmer and his methods and to kindle within him a desire for better things, were not the cause of the third and last condition?

All honor to The Michigan Farmer and its staff. Long may they wave, and may their light ever increase.

Shlawassee Co. A. B. COOK,
AND STILL ANOTHER.

Just at the present time it is very appropriate for us to consider what The Michigan Farmer has done for the Clubs of Michigan, and for what part of its success the Association is indebted to this page. We can scarcely overestimate the work that has been accomplished through The Farmer not only as a medium of reaching the Michigan clubs, but also with the many to whom the club is practically unknown.

The Michigan clubs have a bright future before them and a work that they must accomplish; they can expect success only as they exert themselves in unison, and recognize the efforts of this department; that they can do this safely is evinced by the part that The Farmer has taken thus far in the success of the clubs. We can well think of The Farmer as the ruling and prompting spirit of the Associated clubs, to continue in the future as it has in the past—an inspiration to new clubs, and the reliance of older ones. The Farmer is indispensable as a medium of communication. Without the support exercised by this department serious attempts toward reforms would be hopeless. Much of what the Farmers' Clubs are, largely what they have been, and all that they hope to be, they owe to The Michigan Farmer; what the Associated clubs have done and are going to do, they owe to this department. In short, The Michigan Farmer has fraternalized the Farmers' Clubs of Michigan.

C. P. REYNOLDS,
ONE MORE FROM JACKSON.

It is a matter of some difficulty to separate the work of The Michigan Farmer in this department from that of the Association of Farmers' Clubs. The latter organization is to be congratulated that its work is so loyally and ably carried on by The Farmer. In my judgment Associational Club work would have been largely a failure without the strong support thus rendered it. The Farmer has done more than any other agency to give life and energy to club work. It has kept them in line for the discussion of the same topic, and has afforded a medium for the exchange of opinions. By establishing the fact that all have the same general ideas it has crystallized thought and prepared it for effective action.

All credit, and all success to The Michigan Farmer.

Jackson Co. A. R. PALMER,
HON. R. K. DIVINE, EX-STATE REPRESENTATIVE.

Too much cannot be said in praise of what The Michigan Farmer has done for the benefit of the Farmers' Clubs of this State and nation.

REPORTS FROM LOCAL CLUBS.

BRIGHTON FARMERS' CLUB.

Mr. and Mrs. J. Morgan entertained the club, Nov. 10. Messrs. Gilbert Bradley and Amos Hilton were elected delegates to the State Association. Next meeting Dec. 8, with Hiram Nichols.

MRS. H. E. FOOTE, Cor. Sec.
Livingston Co.

EXETER FARMERS' CLUB.

A very interesting meeting was held in November at the home of Mr. and Mrs. Perry Palmer. Grinding feed for stock was thoroughly discussed, the preponderance of opinion being in favor of grinding a portion of the feed at least. Messrs. Wm. Steward and F. W. Knaggs were elected delegates to the State Association.

MRS. B. F. KNAGGS, Cor. Sec.
Monroe Co.

DEERFIELD FARMERS' CLUB.

The club's first annual meeting was held at the home of Mr. and Mrs. J. L. Payne. Noah Richeson was elected president for the ensuing year. Delegates were elected to both State and County Associations. Next meeting Dec. 17, with Mr. and Mrs. Peter Lamb.

MRS. N. LAMB, Cor. Sec.
Livingston Co.

COLUMBIA FARMERS' CLUB.

November meeting held with Mr. and Mrs. S. Lewis. A. R. Palmer furnished a practical paper on "The work to be done at the annual meeting of the State Association." This was followed by a thorough discussion. The remainder of the time was given to the County Abstracts question. Resolutions regarding the death of C. M. Hess, a most highly esteemed member, were adopted.

MAUDE J. SMITH, Reporter.
Jackson Co.

HIGHLAND AND HARTLAND FARMERS' CLUB.

One of the most successful meetings in the history of this club was held at the home of Association Director Gaunt in November. Considerably more than one hundred were present. Delegates were appointed to meet with representatives of the Livingston Co. clubs for the purpose of forming a county association. Messrs. H. B. Thompson and Wm. Cook were elected to represent the club at the State Association. Several other interested club workers will attend the Association meeting from Director Gaunt's club.

Oakland Co. B.

LONG LAKE FARMERS' CLUB.

A. Traphagan and wife entertained the November meeting. The Kimmis County Salaries bill was read and approved by all except the feature omitting the sheriff. The annual meeting will be held at the residence of O. Whitman.

Genesee Co. REPORTER.

PROGRESS FARMERS' CLUB.

November club met with Mr. and Mrs. L. A. Bird. N. E. York, in opening the discussion on the benefit of club work, thought the social and educational benefit would last for generations; attributed the fact of our being in advance of our brother farmers of the East to the influence of the Club and Grange. H. W. Babcock said it would pay us in taxation alone if we could secure the enactment of the Salaries bill. Messrs. L. A. Bird and F. A. Bradley were elected delegates to the State Association.

MRS. F. A. BRADLEY, Cor. Sec.
Tuscola Co.

DUNDEE FARMERS' CLUB.

Mr. and Mrs. Wm. Coleman entertained the November club, one of the largest and pleasantest of the year. "How can the farm best be enriched?" Title it; keep plenty of stock to consume the coarse fodder; carefully husband all the fertility and use it on the poorest ground, and preserve a careful rotation of crops. The program was varied by requesting everybody called upon to contribute a song, joke, recitation, story, or whatever they pleased; or in lieu of that to pay a fine of five cents into the treasury. The result was a very lively and enjoyable entertainment. December club at the home of Mr. and Mrs. Elihu Wright. Officers for the ensuing year will be elected.

MRS. L. B. SMITH, Sec.
Monroe Co.

FARMERS' SOCIAL CLUB.

To the other clubs of the State, greeting. Next month we will be twenty years old and we think the time has come when we ought to report our meetings in The Michigan Farmer, the farmers' paper. At a pleasant and profitable meeting at the home of Mr. and Mrs. Frank Rector, in November, O. B. French read an instructive paper on "Noxious Weeds." He exhibited a weed that had baffled extermination in his garden for many

years. A good discussion followed. Mrs. J. F. N. Bowen read an excellent paper pleading for the continuance of the district schools, in the discussion of which both the gentlemen and ladies participated. The unanimous verdict was in favor of the independent district schools instead of the centralized plan. Next meeting with Mr. and Mrs. J. F. N. Bowen. Question for paper, "Mexico, its ancient architecture, customs and manners." Question for discussion, "Free text books and uniform text books."

Will E. H. Estes kindly give full name? If we are right in guessing, we think he will recognize the names of Rector, Hall and Horton, and we would indeed feel that we were extending the right hand of fellowship to an old acquaintance.

MRS. FRANK RECTOR, Cor. Sec.
Lenawee Co.

WALLED LAKE FARMERS' CLUB.

November meeting at the residence of Clayton McKinney. A. E. Green and C. McKinney were elected delegates to the County Association. The proposition to send a delegate to the State Association was discussed favorably. A. E. Green was elected as such delegate. December meeting with M. E. Phelps.

Oakland Co. A. E. GREEN, Cor. Sec.

MT. SALEM FARMERS' CLUB.

The attendance at the regular monthly meeting with Maurice Foley was large. "The safest way to store corn" was discussed by Messrs. Collins and Foley. An interesting debate followed by eight young ladies, on "Resolved, that country life is preferable to the average girl." Resolutions were adopted favoring the passage of the Kimmis and Atkinson bills.

MRS. M. FOLEY, Cor. Sec.
St. Clair Co.

Veterinary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case fully, also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Paralysis.—Twelve-month-old hog died; has been well fed. Lost use of body and soon died. Did he die of hog cholera? J. R. K., Riverdale, Mich.—Your hog was too well fed and did not have enough exercise; died from paralysis. He showed none of the symptoms of hog cholera.

Ringbone.—Nine-year-old mare went lame three months ago, caused I think from a ringbone. There is a bunch on pastern; it is hot and somewhat tender; seems to be growing larger. H. B., East Saginaw, Mich.—Blister with caustic balsam once a week. Give her rest until she goes sound.

Canker in Ears.—A hound dog three years old has sore ears; they discharge yellow pus. He shakes his head; is deaf, but seems healthy otherwise. A. S. F., May, Mich.—Apply equal parts iodoform, tannic acid and prepared chalk twice a day. It will do his ears good to dust a little calomel on the sore parts once a day.

Lice—Bronchitis.—April calf has been ailing for three months, growing thin. Found lice on him; he has a cough. W. A. B., Bridyard, Mich.—Apply one part zenoleum to thirty parts water once a day until the lice are killed. Give two drams tincture chinchona and one dram fluid extract wild cherry three times a day.

Surfeit—Eczema.—My horses are continually biting themselves and small pimples appear on body, then go away. They rub their tails. J. K., Markell, Mich.—Wash your horses with castile soap and water; add a little kerosene; give one dram Fowler's solution three times a day to each horse. Vegetables and plenty salt will help them.

How to Prevent Milk Fever.—When cow had her last calf she took milk fever. Can I use a preventative to ward off another attack? D. S., Motherton, Mich.—Reduce her in flesh by feeding non-nutritious food. Purge her with epsom salts before and after calving and a low diet a few days after coming in. Be sure and keep her warm.

Bronchitis.—A number of spring calves have been coughing for a month or two past. They are in good condition. A. L. D., Lupton, Mich.—Give one tablespoonful of the following mixture twice a day: Tincture tolu four ounces; fluid extract wild cherry six ounces; syrup squills six ounces; honey

six ounces. I do not think it will result seriously.

Simple Ophthalmia.—Brought brood ewes from field to barn five days ago; found four blind, others with one or both eyes affected. Eyeball partly white. M. H. L., Hartland, Mich.—Blow some calomel into eyes once a day. Apply nitrate silver five grains, distilled water one ounce once a day to eyeball. Use a dropper. Give epsom salts to open bowels.

Shoulder Lameness.—A four-year-old horse went lame three weeks ago; his shoulder swelled; drags his toe and is very lame. His leg and foot are all right, so far as I can see. I think the trouble is in point of shoulder. O. J., Ypsilanti, Mich.—Your horse sprained his shoulder muscles; blister with caustic balsam and if he does not recover in ten days repeat.

Worms.—A two-year-old colt is all out of condition; his coat is rough; he is low in flesh and not growing. I think his appetite is too good. W. H. K., Coldwater, Mich.—Give him one-half dram santonin once a day; also half an ounce ground gentian twice a day in feed. If his bowels are constipated give him five drams barba-doos aloes and one dram calomel, one dose only.

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We tell you of some things this week that will make practical Christmas presents—presents that will please both the donor and the recipient.

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Horticultural.

For The Michigan Farmer.

HOW I GREW MY CAULIFLOWERS.

Last spring I wanted to grow an acre of cauliflowers, but I had no suitable place for them. I had just set an acre of strawberries. The soil was a deep clay loam, which had received a heavy dressing of stable manure for several consecutive years and was, therefore, very rich. Water pipes had been laid over the field, which were connected with my water tank, so that it could be conveniently irrigated, and I knew that with water at hand available for irrigating them, I could grow good cauliflowers. The strawberry plants had been set in rows three and one-half feet apart; the space between them would not be occupied during the early part of the summer, and I decided to try the experiment of planting my cauliflower plants in it.

The early cauliflowers would be mostly marketed before the ground would be needed by the strawberry plants, and as to the late ones, I thought I could let the strawberry plants set close to them, and let them grow and mature. Before setting out the plants I ran the cultivator between the rows of strawberry plants, then with a light plow I made a furrow three or four inches deep, and scattered some special cabbage fertilizer in the furrow. The ground had been so well pulverized with the cultivator that the cauliflower plants were easily transplanted. When there was not sufficient rain to wet the ground, when we were transplanting, the hose was connected with the water pipes and the water turned in the furrows. Afterward I irrigated the plants whenever water was needed. In dry seasons water is needed to make cauliflowers a sure crop. For a few weeks the most of the cultivation was done with a wheel hoe, but later, when the strawberries were allowed to set plants, we could only use the common hoe. I removed a part of the outside leaves when the cauliflowers were nearly grown, and fed them to my horse. The plants grew so rapidly with irrigation in the rich soil, that I had but little trouble with the club root, or other parasites of the cabbage family. The greater part of the cauliflowers were sold from the market wagon, but a part were shipped to a commission merchant in the city, and some that were not disposed of before cold weather were planted in moist soil in the cellar, and so we were able to market them all. I can usually average from 8 to 10 cents per head for cauliflowers and from 8,000 to 10,000 can be grown on an acre. Deducting culls, the sales from an acre should be from 400 to 500 dollars, and if fertilizers, labor, and expense of irrigating is deducted the net profit should be about 300 dollars per acre; there are conditions which may reduce the profits still lower. In some seasons cauliflowers can be retailed at from 15 to 20 cents if they are fine; this about doubles the profit. When the cauliflowers are removed I clean the strawberry bed of weeds, and early in the winter give it a good dressing of stable manure for a mulch, and to supply the plant food it may need. The wet weather we usually have late in the fall causes the strawberry plants to make a good root growth, so they will be in good condition for the next year. I grow mostly the snowball variety of cauliflowers, and try to have the greater part of them head in September and October, when I have a demand for them for pickling. Early Winnigstadt cabbages or any variety with small outside leaves can be grown in the strawberry rows, although I prefer to grow the cauliflowers when I have land that is adapted to them. People who read this must not expect success in growing cauliflowers in the strawberry bed unless the soil is made very rich, and then one would fail in time of drouth if some means were not provided for irrigating them. I have grown crops of cauliflowers and cabbages in the strawberry beds that have paid the whole cost of growing the strawberry plants ready for a crop the next year, including fertilizers and labor, and still leave me a considerable surplus. Some people will tell me that I am taking too much plant food from the soil, therefore lessening the crop the next year. This may be true with ordinary culture, but one must supply plant food to the soil that is sufficient for both crops. I have seen but little

difference in the yield of strawberries where the cauliflowers were grown, when compared with other beds.

Delaware Co., N. Y.

W. H. JENKINS.

WHAT IS THE TROUBLE WITH HIS PEACH TREES?

To the Editor of The Michigan Farmer:

The question with me is, what shall I do for my peach trees, planted three years ago last spring, on a sandy gravel loam. For two seasons I sowed the ground to rye and plowed under when headed. The next year planted to corn. Last spring I seeded to June clover, with no other crop. Had a good catch and a good growth of clover, but the trees made a poor growth, the leaves of which turned yellow early in the season, although some of the trees—the Crosbys—bore a fair crop of choice fruit. Will you kindly tell me through The Farmer what kind of a fertilizer to use, how much to a tree or per acre? I have seven acres and 1,000 trees.

Calhoun Co., Mich.

G. F. MERRITT.

Have you examined those trees to see if they have not been attacked by the borer, or are suffering from the attacks of some other insect pest? If not, it may be a case of starvation—not sufficient fertility in the soil to keep the trees healthy and vigorous. If that is the case, barnyard manure is probably the best application you can make to the soil, and you need not be afraid to put on plenty. Hardwood ashes would also be good, and if they are not available, a superphosphate containing a good deal of potash could be used. If you apply a superphosphate it would have to be cultivated in, and about 400 pounds to the acre would not be too much.

Perhaps some of our readers could suggest a better remedy for the conditions affecting Mr. Merritt's trees.

ANNUAL MEETING OF THE STATE HORTICULTURAL SOCIETY.

The program for the twenty-eighth annual meeting of the Michigan State Horticultural Society has been issued, and it presents to the fruit-growers of Michigan subjects and essayists of rare interest and value. The society is to meet at Michigan University, having been invited by the board of regents, and the sessions will be held in Newberry Hall. This hall is equipped with all needful apparatus for illustration of lectures, and many of the papers will be supplemented by stereoscopic views. The dates fixed are December 6, 7 and 8. One session will be devoted to the Michigan forestry question, a half dozen or more prominent people who are interested in this work taking part. Another will consider landscape gardening. Superintendents Simonds, of Chicago parks, and Coryell, of Detroit, as well as Prof. W. W. Tracy, of the latter city, furnishing papers. The annual election of officers will occur on the 7th.

Among the topics to be considered are "The peach outlook," by Hon. R. D. Graham, of Grand Rapids; "Development of fruit buds," by Mr. R. M. Kellogg, of Three Rivers; "Thinning fruit," by Prof. S. A. Beach, horticulturist of the New York experiment station; "Plant lice and scale insects," by Prof. W. B. Barrows, of Michigan Agricultural College; "Lawn decorations," by Mr. Thomas Gunson, of the same school. Manager Hurlbut of the Detroit parks will contribute a paper upon "Parks and their uses." A question which is interesting all agriculturists at present, as well as gardeners, "The sugar beet and beet sugar," is to be presented by Prof. Paul C. Freer of the University. President Morrill delivers a paper upon "The future of Michigan apples." In his paper upon thinning fruits, Prof. Beach will present the results of recent investigations and experiments at his station. Other subjects to be presented by members of the University faculty are, "Fruit acids," by Dr. Prescott; "Preserving fruits," by Prof. F. G. Novy; "The ripening of fruits," by Prof. J. B. Pollock; "What are fruits?" by Prof. F. G. Newcombe; "Chemistry of ripening fruits," by Prof. J. B. Schlotterbeck. Hon. C. J. Monroe, of South Haven, will consider "What legislation should we have this winter?" Regent Dean, of the University, is to tell of "The value of education to the state," and Dr. B. A. Hinsdale, of the University, is to speak of "Rural schools." President Angell is to make the address of welcome, and Charles W. Garfield is to respond thereto. At some time during the meeting a tour will be

made to those departments of the University which are of general or particular interest to fruit-growers or farmers. A plan is to be considered by which the society may aid in the formation of village improvement clubs in the State. Besides the topics mentioned to be considered by papers, a number of questions of great pertinence to the pomologists of Michigan are to be considered by questions to be submitted for discussion.

It is hoped by the society that its membership will attend this meeting to the greatest possible extent, and that fruit-growers from all parts of the State will avail themselves of the opportunity to see what Michigan's great school can do for the advancement of their art, by attending the meeting and seeing something of the University for themselves.

Reduced hotel rates have been secured for all attending, and every possible measure taken for the comfort and entertainment of all who go.

For The Michigan Farmer.

THE TRIUMPH PEACH.

I see a writer in your paper claims the Triumph to be a freestone. I have fruited it the past season, and found it to be a clingstone of the most pronounced type, fully as much so as Alexander or Amsden. It ripens from the outside, which will be quite soft, while the inside will be hard and green. When dead ripe it is of quite good quality. The best specimens are fully medium size, and ripen four or five days later than Alexander.

Van Buren Co., Mich.

C. ENGLE.

For The Michigan Farmer.

BLACKBERRY PLANTS FROM ROOT CUTTINGS.

The first we knew of growing plants in this way was when we read of friend Kellogg's method. As we understand it, he digs the roots in the fall and buries them in sand, keeping them in a cellar, where he regulates the temperature, keeping it near the freezing point, or about 40 degrees, if I remember correctly. Now as we had no such place to keep root cuttings, we thought we could not grow any plants from them. However, last fall, after the ground was frozen quite hard, we read an article in which the writer stated that he grew such plants, burying the cuttings just below frost limit. After we read this article we concluded that we would try a few anyhow, if only to get our hand in.

Accordingly we went to work, and after much labor we succeeded in digging up a few roots; these we buried below frost limit. This spring we dug them up, placed them in a row with two inches of soil firmly packed over them, and awaited results. They had no care except that they were cultivated with the spring-set strawberry bed. In cultivating our blackberry patch last spring we got a little too deep for some of the roots, and a few were broken off by the cultivator teeth. As we didn't like to waste these roots we thought to try planting a few, so they were cut into two-inch lengths and planted close by the fall-dug roots. As for results: Those cut in the spring grew almost to a root, while of those cut in the fall but few grew. There was also a marked difference in the manner of growth, the fall-cut roots starting slowly and the tops making not more than one-third as large a growth as the others. I thought to myself several times during the summer, those spring cuttings are away ahead of the others; but when I came to dig them a few days ago, to trench in for the winter, I found there was also a decidedly marked difference in the roots, and the difference was in favor of fall cuttings, for while the spring cuttings had made a creditable root growth, the roots were fewer in number and consequently were longer. Some of the fall cuttings were about as pretty rooted plants as one could wish to see, the roots being small and numerous.

This fall I have made about 3,000 cuttings and buried them, using sharp sand around the cuttings and covering with the natural soil, which is gravel. There will be no danger of water injuring the cuttings where I have them buried. I shall take particular pains

with them next summer and see if I cannot get a thousand or two of fine plants.

St. Clair Co.

M. N. EDGERTON.

THE SOIL FOR APPLES.

Upon this subject a bulletin of the Pennsylvania Experiment Station has the following:

The limestone soils of the state are among the best for apples; they are firm enough to prevent damage to the roots in winter, and they sustain the life of the trees to a good age. Such lands occur in York and Lancaster Counties, abound in the Cumberland Valley, and extend in a broad band to the northeast through Lebanon, Berks, Lehigh and Northampton Counties. It also constitutes much of the tilled land in the valleys west of the Susquehanna River. The red shales and sandstone soils, more especially those showing trap rock, are the favorite fruit lands, forming an extensive band from Adams to Bucks Counties. West of the Allegheny Mountains are the carboniferous formations with a variety of soils. The gravelly clay loams are abundant, producing an excellent quality of apples. The acreage in this section is rapidly increasing, and will soon command the attention of buyers.

Long keeping quality is claimed for the apples of the northern counties, where the Northern Spy is still a successful variety. On the other hand, in the southeastern counties there is not yet found a satisfactory apple to be grown for late winter use. There, the Baldwin commonly falls in September.

A soil intended for apples should be first tested with some annual crop, as corn or potatoes. If a good yield is obtained, it may be assumed that the ground is fit for the trees; if not, it should be kept under cultivation, with judicious fertilization, until it is in good condition. This might be considered as the preparation of the soil; it will insure a good "mechanical" condition and guard against an error frequently made of planting in a poor soil.

The error which has been commonly made in locating orchards in the past, is in choosing a poor piece of ground; one that was thin, or rocky, or on a hillside too steep to cultivate. The modern practice in choosing soils for apples is based upon the fact that no soil is too good for an orchard. Of course, low, flat, meadow land is not suitable for tree growth. It tends to cause the production of much brash wood and the fruit does not have the color and flavor of that produced in well drained land. The serious objection to such low land is in that it holds stagnant water below the surface. Fields might be quite level, and if somewhat elevated and well drained, either naturally or artificially, they would be first-class for successful orcharding.

Sandy soils are not adapted to the apple; they do not possess or retain the fertility necessary for the best growth of the apple tree.

In forgetfulness there is danger. When you feel the cold coming, take Jayne's Expectorant.

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ORNAMENTAL TREES AND SHRUBS. 44

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THE STORRS & HARRISON CO., Box 55 PAINESVILLE, OHIO.

The Dairy.

Conducted by J. H. Brown. Every reader of The Michigan Farmer, who is interested in dairy matters, is earnestly invited to frequently contribute to this department. Send all dairy correspondence to Battle Creek, Mich.

THE EDITOR'S DAIRY NOTES.

COLD STORAGE FOR ROOTS.

We have never fed roots to our dairy cattle, and consequently have never grown carrots, beets, mangel-wurzels or rutabagas as a field crop. The principal reason has been that we had no suitable and convenient place for storage and feeding.

Were we to build a basement barn or cow stable, it would not be considered complete without including a good cold storage place for roots. The location must be such that the roots can be taken from the pit to the mangers without going outside the building or carrying too far.

We should like to receive plans of barns or stables that have a convenient root cellar attached. Some of our readers have just what we want. Who will be the first to respond?

Regarding the storing of roots for dairy use, Geo. E. Newell, of Ohio, says that the great beauty and value of roots for milch cow feeding lies in the fact of their being kept fresh and crisp with a full retention of their natural moisture. This can only be assured by proper storage.

Roots should be washed when first pulled, or, if not convenient at that time, should be thoroughly cleaned before cutting up or feeding to the cows. It is pernicious to feed roots with the dirt on, as thereby a cow's digestive functions are interfered with, and an otherwise nutritious food is made in nutritious. Avoid harvesting in the mud, especially on clayey soils, unless freezing is imminent.

After the roots have been "topped" and the small rootlets clipped off, they can be quickly cleaned by spreading them on an open rack of slats and spraying water on them through a hose backed up by a force pump. When dry, the roots should be stored in a cellar that is cool at all times, and moderately moist. The object should be to retain the natural juices of the roots intact until they are fed out to the cows.

I have found farm-house cellars to be the poorest places on earth in which to store this valuable cattle feed. Such cellars are almost invariably too warm and dry. The vegetables become shriveled, and dry or start to sprout, and lose half of their vitality and feeding value. It is next to impossible to properly regulate temperature in a dwelling-house cellar.

The ideal place in which to store roots is an out-of-door cellar. It is usually convenient to excavate one from the side of a bank and put on a dirt roof, although one of the best ones I ever saw was made by sinking in level ground, stoning up the sides and building a combination tool-house and workshop on top. No fire was ever kept in the latter, however.

Pitting roots is a beautiful way to preserve them, provided the pits are sunk below the level of the ground in a dry location and an air space left on top, or better, a small ventilator stuffed with straw. This leads me to say that every out-of-door cellar should be provided with a ventilator also. A temperature of 40 to 45 degrees should be maintained, which should be gauged by a reliable thermometer. It is not good policy to place too many roots together in bulk, as they pass through a "sweating stage" where poor facilities for evaporation may cause them to deteriorate in quality. Like potatoes, they should never be roughly shoveled or thrown into bins. By handling them in baskets all tendency to bruises and lacerations is obviated, and future quality preserved. Standard roots, thus cared for, will help make an abundance of rich milk in the cold wintry days ahead, but will be of only half value if improperly stored.

Too much carelessness in storing roots has made them of so little value that many farmers have ceased growing them at all. Yet we would never try to grow them unless proper and convenient cold storage could be secured, and at little expense.

The great value of roots for dairy cattle is in their succulence. The percent of digestible nutrients is very small. When cows are fed all winter on dry hay, corn stover and dry grain, without corn ensilage, the feeding of

roots in small quantities daily is to be recommended.

AVERAGE COMPOSITION OF ROOTS AND TUBERS.

As to the value of sugar beets for feeding dairy cattle, compared with bagas, turnips and carrots, etc., the following will show:

Roots and Tubers.	Percentage Composition.	Percent Digestible Matter.
Sugar Beets.....	88.5	11.1
Beet Greens.....	88.5	9.3
Rooted V. Turnips.....	88.5	7.1
Rooted V. Carrots.....	88.5	6.5
Carrots.....	88.5	5.5
Potatoes.....	88.5	4.5
Water.....	88.5	0.1
Ash.....	88.5	0.1
Organic Matter.....	88.5	0.1
Crude Protein.....	88.5	0.1
Crude Fiber.....	88.5	0.1
Nitrogen-Free Extract.....	88.5	0.1
Ether Extract.....	88.5	0.1
Crude Protein.....	88.5	0.1
Carbohydrates.....	88.5	0.1
Ether Extract.....	88.5	0.1

Although we have never made an actual experiment, it is our opinion that potatoes would suit our requirements, under all conditions, for feeding dairy cattle, better than any of the other roots. They contain a larger percent of digestible nutrients, except fat, and are much easier to grow, harvest and handle.

TESTING MILK.

Now for a few hints and suggestions in regard to the Babcock test. Samples of milk should be well mixed, and the amount taken at once. A correct sample cannot be taken from old, cold milk unless warmed and mixed. The acid should be of the 1.82 gravity, as stronger acid burns the elements not fat too much, and the fat cannot be freed from the "ashes," increases the bulk of the fat, and makes a difficult reading. If the test is cloudy and full of white flecks, the acid is too weak to dissolve the non-fatty elements, and they are carried into the fat. The remedy is, in either case, to use less or more acid, but the better way is to get a 15-cent acid tester, and see if the acid is above or below the 1.82 mark. If the acid is right, the test should be, or the fellow who is making it should be reformed somewhere in making the test. If the fat in the test (before it crystallizes) hardens is a golden yellow, the acid is all right without testing. The acid bottle should always be tightly corked for the acid, if left exposed, will absorb water from the air, and weaken it.

The tests should never be made with either very cold milk or acid. Both should be about 65 to 70 degrees when united. Neither should be too warm, as hot milk and acid will generally, when united, precipitate a mild explosion. In adding water to the flask to bring the contents up into the neck to give the readings, use soft water. Hard water has a reaction. The best thing to use is a little condensed steam water. The trouble is, with hard water, that the lime in it uniting with the sulphuric acid has a tendency to foam, and bubbles will come on the surface readings of the fat, which makes the upper line obscure.

In testing skim-milk, it is seen that a difficulty presents itself. If good creaming has been done down to 0.1 of 1 per cent, the amount of fat left in an ounce of milk is so very small that a tiny drop of oil would be all that could be expected, and in making the test it is advisable to add a fifth more acid, and whirl longer, and be ready to read at once, filling the flask as full as possible so as to bring the fat up in sight. Such readings have to be guessed at as to amount, until the loss in creaming is so great that it presents a film of fat over the entire neck of the flask, which would be exceedingly poor cream separation.

In sampling buttermilk, the acidity

must be corrected, the same as with sour milk. To do this, a little potash, or even ammonia, added to the milk in sufficient amount only to dissolve the casein, which the souring has coagulated, will give the desired fluid condition to the milk, but it requires some time, and the testing should not be done until the action of the alkalis seems complete. Where alkalies have been added to the sample, care must be taken in adding the acid, so it is better to let the milk become somewhat dark colored before going on with the test and mixing in the acid.

In making composite samples, this thing should be taken into consideration. The object of the composite test is to save work, and by pooling the samples from a dairy for two weeks, and then taking a sample from these samples as the average for the 15 days, one gets a fully satisfactory result so far as dividing proceeds is concerned, and the every-day test is reduced to the getting of a daily sample only. The difficulty in having the final sample correct is not in the machine, but in the taking of the samples. A pint Mason jar is taken and labeled, one for each dairy. Each delivery of milk should be sampled, and the sample put into this jar. If twice a day delivery was in practice, there would then be 30 samples united from which to take the one final test for the average. Now dairies do not run any more even in the amount of fat they give than they do in the daily amounts of milk they yield; one mess with another, the variation is surprising. If a dairy gave exactly 200 pounds of milk at each milking, it would be simple to get at it, but suppose that a dairy gave 260 pounds of 3.5 per cent milk in the morning, and 250 pounds of 3.2 per cent milk the morning following—on the one hand an ounce sample would not be an average of the amount of the large mess, and an ounce would be too much for the small one, so the sample taken should be in proportion to the mess of milk delivered, and while all the samples in the jar would be from one dairy, the readings could not be correct unless the samples taken were in proportion to the pounds of milk delivered. So a third more milk should be taken for the 250-pound than from the 175-pound yield. To keep these samples from coagulating bichromate of potash is used, and a half gram—8 grains—will be ample to keep the milk from coagulating for the two weeks, though in practice, ten days is a better period. A 30-cent pound of bichromate of potash makes preservative to keep 900 samples, so the expense is trifling. Where one does not have small scales, it will be found that a 22 cartridge shell, cut 1/2-inch long, is the exact amount needed for each jar of the composite. It must be remembered that bichromate is a weak poison, and must be looked after accordingly. As samples are added, the deep red of the first becomes lighter, and the final color will be light yellow. This needs to be pasted in one's hat, and on the wall by the samples. As each new addition of milk is made to the jar, it should be well mixed by a gentle, horizontal, circular motion of the hand, so as not to get the cream upon the sides of the jar above the milk as cream "up in the air" and dried on the sides, is of no value in the test, and lowers the record of the sample below the actual value of the milk.

A word about testing machines and bottles may not be amiss. None of the forty and one different sorts of Babcock testers are patented, and all are alike in principle, but in the eagerness to get out a cheap machine, poorly made testers were put out, and not enough attention was paid to the calibration—scale—on the necks of the flasks. In comparing three flasks together, it will be noticed that the spaces may vary, i. e., from 1 to 2,

may be a longer space on one bottle than on another. This shows that the bottles have been tested, and the diameter of the necks measured and spaced according to size, just as the distance from 0 to 32 in some thermometers is greater than in others. Reliable dealers are very particular about this matter of calibration, and with a fairly good machine there is now little risk but what every bottle has been tested with mercury. The plan is this: A cork is pushed down the neck of the flask to the point where it enlarges, and two centimeters of mercury are then put in, the upper surface measured, and an etching made at the bottom. The distance is then marked into ten equal spaces, and five marks made between, so that each mark represents 0.2 of a pound and each five of these 0.2 marks would represent one pound of fat in each 100 pounds of milk, as this same 2 CC of mercury is used for all bottles. If there is any inequality in the diameter of the necks, the spaces will be longer or shorter, as the case may be, but the amount represented will be the same, and no one need charge "cheat" bottles, because the calibration in two bottles does vary in length.

JOHN GOULD.

AN INTELLIGENT BUTTERMAKER.

A man came to town the other day with butter to sell, and called on Will Mathis to buy it, says the Elizabeth-town (Me.) News. He said he didn't want any at the store, but he would inquire if his wife wanted any. So he stepped to the telephone, called her up and talked to her a few seconds through the instrument. Then, turning to the countryman, who was standing with his hands in his pockets, his eyes dilated and his face very red, he told him that his wife would not need any butter. The indignant countryman blurted out: "Look here, mister, if you didn't want any butter, why didn't you say so? I ain't such a fool as to think that you've got your wife in that little box!"

When writing to advertisers please mention that you saw their advertisement in the MICHIGAN FARMER.

CREAM SEPARATORS

De Laval "ALPHA" and "BABY" Separators First—Best—Cheapest. All Styles—Sizes. PRICES \$50 - TO \$800.- Save \$10.- per cow per year. Send for Catalogue. THE DE LAVAL SEPARATOR CO. RANDOLPH & CANAL STS., 74 CORTLANDT STREET, CHICAGO, NEW YORK.



Fatten Fast

Steam your feed, thus saving 1/4 to 1/2 of corn or other feed. Stock thrives better and fattens faster.

KALAMAZOO Feed Cooker

Made of boiler steel. Invaluable to dairymen and stock growers. Has a dozen uses on the farm. Will last a life time. Send for circular.

LULL & SKINNER CO., Kalamazoo, Mich.

"MODERN HERO"

HORSE POWER and GRINDER 10 Sizes and Styles of SWEEP and TREAD POWERS. 25 SIZES AND STYLES OF FEED MILLS.



35,000 of Our Grinding Mills Now in Use.

Wood Saws; HERO; Ensilage Cutters; Corn Huskers, the best made. Goodhue Wind Mills, etc. GREATEST VARIETY, STRONGEST GUARANTEE. Our 150 page catalogue mailed FREE. 20 Fargo Street, APPLETON MFG. CO. BATAVIA, ILL.

BABY BEEF AND PIG PORK

the kind that never stops growing a minute and which matures at an early age, is the kind that produces the greatest percentage of profit. This problem of quick maturity is solved by

The Electric Feed Cookers.

They cook all kinds of stock food, ground or unground, quickly, thoroughly and cheaply. Because of their peculiar construction they require less fuel than any cooker made. They have a dead-air space between the inner and outer plates, which conserves the heat, and thus they

REQUIRE LESS FUEL AND RETAIN THE HEAT LONGER.

Made of best gray iron castings and lined with plates of steel. Boilers of best galvanized steel. Three styles, five sizes—25 to 100 gallons. Free book on "Feed Cooking" sent to all interested parties on application.

ELECTRIC WHEEL CO., Box 58, Quincy, Illinois.



PUBLIC AFFAIRS.

It is reported by the French press that Major Count Ferdinand Walsin Esterhazy, who is the acknowledged forger of the documents upon which Dreyfus was condemned, has sailed for the United States. As he is a self-confessed criminal he should be prevented from landing in this country. There is good law for sending him back whence he came, and it should be enforced.

The Illinois Sugar Refining Co., of Peoria, Ill., has been incorporated, and will erect a factory at that place for the manufacture of beet sugar. It will have a capacity of 350 tons of beets per day. The capital was furnished by the wholesale grocers of Chicago, who will handle the product of the factory. There is every reason to suppose that the beet sugar industry will develop enormously in this country if nothing occurs to seriously affect its prospects.

The election to Congress in Utah of a Mormon who believes in a plurality of wives, and acknowledges to having three, is likely to start a sharp discussion in that body as to the right of a man, a criminal in the eyes of the law, occupying a seat as a member. If the United States, through its chief legislative body, recognizes polygamy as compatible with the holding of official position in the government, the States in the Union may as well abrogate their laws against bigamy. A Mormon has no more right, under the laws of the country, to commit bigamy than the member of a Christian church, and if the right is acknowledged in the one case it must be in the other. The action taken by Congress, therefore, in the case of Mr. Roberts, the member-elect referred to, will necessarily have a wide influence upon the marriage relation in this country.

The New York daily journals are neither logical nor consistent. They are opposed to prize fights, and invariably call on the authorities to suppress them. But they are a unit in kicking over the result of the Sharkey-Corbett contest because it was not fought to a finish. If they were in earnest in their opposition to fighting, any means that would put a stop to it, or tend to disgust the public with such exhibitions, would be encouraged. The fact is the newspaper writers generally take high moral ground when discussing such matters in their columns, and then sneak around to witness these exhibitions. It is just as certain as anything can be that is not fully accomplished, that if the entire press was to discontinue publishing anything about prize fighters and prize fights, it would soon die out. It is maintained and advertised by the daily press, and public interest excited in the contestants by these journals, which then publish long editorials condemning the practice and the authorities for not suppressing them. Generally, however, the space allotted to a description of a fight is double that given to the editorial condemning the exhibition.

There is no community in the Union where the citizens show a keener perception of what is best for their material interests than in Vermont. We notice that the lower house of the legislature of that state has passed a special taxation bill prepared by Governor Smith, which provides, among other things, for a board of tax examiners empowered to make an agreement with non-residents who will enter the state and live there as to taxes for a period not to exceed thirty years. The object of the measure is to induce wealthy persons, who in other states have been heavily assessed, to enter Vermont under a contract that their taxes shall not be above a specified amount for a specified period. In view of the efforts of some communities to get rid of the monopolists and millionaires, it is not too much to expect that Vermont will have her population increased as soon as this law goes into effect. Undoubtedly there will be gold bricks among the prizes captured, but it is a shrewd move for that state just the same, as it has no natural advantages, and must therefore rely upon the wits of her people to supply their place.

An Austrian professor, who has been investigating the subject, announces that England, by which name he refers to Great Britain, owes her

supremacy over other nations very largely to the national bath-tub, and that the only sure way to outstrip that nation is to use more water than she does. The professor referred to is greatly interested in hygienic matters, and undoubtedly is inclined to exalt cleanliness whenever possible; but there is no doubt that cleanliness does exercise a strong influence upon the morals as well as the health of a community. One of the inspired writers declares cleanliness to be akin to godliness. Lord Brougham, famous as a lawyer and judge, declared that no man ever committed a crime while he was wearing a clean shirt. It may be, therefore, that the way to purify the slums of big cities is not to waste time in praying, but to subject the people to the purifying influences of soap and water, and clean clothing. No doubt many would object, but a community would seem to have the same right to protect itself against unclean people as against unclean streets. Undoubtedly there would be fewer objections to the application of water on the outside than if it had to be taken internally by those who are most in need of it. We presume in the future the great conquering nations of the world will include bath-tubs in the outfit of their armies and soap and towels will be regarded as essential as hard-tack in the rations of the soldiers.

BEET SUGAR IN MICHIGAN.

WHAT IS REQUIRED TO MAKE THE INDUSTRY PROFITABLE.

To the Editor of The Michigan Farmer:

There are four matters concerning which it is of immediate importance that the farmers everywhere in the State, regardless of locality, should be fully advised before the meeting of our next legislature. These matters relate to sugar beets; they are the advisability of continuing the bounty on beet sugar; the necessity of the continuance of tariff on sugar for a few years until the beet sugar industry shall have become an assured success; the profits from raising sugar beets, and the conditions which make profits in that business profitable; and, finally, the necessity of having in the immediate neighborhood of the factory at least four times as many acres that are adapted to sugar beets as are devoted to that crop in any one year.

Continuing the Bounty on Beet Sugar.—Within all human probability at least two additional beet sugar factories will be built in Michigan during the coming year. The factory at Bay City is doing business now and will continue to be operated to its fullest capacity for the years to come. In 1899, or certainly in 1900, the other two factories will be in operation. If the present bounty law is kept in force the draft on the treasury of the State is going to be large. It will not be far out of the way to assume that the Bay City factory will make 7,500,000 pounds of sugar this year on which the bounty will be \$75,000. Next year if three factories are running it will require over \$220,000 to pay the bounty to all three of them. Is the State ready to appropriate this large sum for the purpose? If ever it has been right to tax the many for the benefit of the few it is wise to continue this bounty for the seven years contemplated in the act passed last year. Think of what it means to the State, the manufacture of 22,000,000 pounds of sugar by the three factories means the growing of at least 9,000 acres or 108,000 tons of beets, for which the farmers will receive not less than \$432,000, annually. The factories themselves furnish a large amount of labor in their construction and operation, and pay large sums of money for coal and limestone, both products of the State. Let the farmer consider carefully whether he wants the bounty continued and advise his representative in the legislature of his opinion, that the legislature may know how the farmers feel in the matter.

Relation of the Tariff to the Beet Sugar Business.—It was not surprising to find on my recent visit to the beet fields of Nebraska that both the farmers and the factory managers were in a state of suspense as to what Congress was going to do about the admission of sugar free from Cuba and the Philippines. It comes in free now from the Sandwich Islands and Porto Rico. If to these islands are to be added others it is useless to go on building factories for the manufacture of beet sugar. We cannot compete with coolie and semi-slave labor. Until the business of growing and manufacturing beet sugar shall be big enough to stand

alone, shall have passed through all of the diseases incident to childhood, the ignorance of the beet growers, the hesitation of capital, the timidity of public men, and adverse climatic conditions, it must be protected from competition with these foreign countries or it must die. The farmer should think of this matter at once and advise his member of Congress of the consensus of opinion in this regard in his neighborhood that Congress may not act in ignorance of the desires of the farming community.

The Profits from Growing Sugar Beets and the Conditions on Which Profit Depends.—It is an invariable rule of the experiment station that the results of experiment shall be published first in a bulletin and not in the agricultural press. The experiments in sugar beet raising carried on by the station in the season of 1898 have been directed toward determining the cost of growing the roots per acre and per ton. Reports of results from the co-operative experiments are now coming in. While I cannot give you the details I can say this in a general way, that although the farmers are of course inexperienced in growing beets they are yet able to produce them at a cost so small as to leave a large margin of profits when sold at \$4 per ton. The profit per acre amounts to \$30 in many cases, and never less than \$15, and this includes the rent of the land at \$6 per acre as one of the items of expense. It is, therefore, a good paying business for the farmers in the locality of the beet sugar factory. It is only fair that attention should be called to the fact that at Bay City the conditions are not unlike those existing in Nebraska in one respect: Where the reported profit is greatest it has been found possible to hire women and children at 65 to 75 cents per day to do the thinning and topping. It is this cheap but efficient labor that reduces the cost and increases the profits. The idea of allowing women to perform this kind of work is repugnant to American ideas, and it is to be hoped that the expansion of beet-growing does not involve an equal extension of this practice.

Necessity of Rotation.—The last point to which I wish to call attention in this article is the necessity of having about each sugar factory four times as many acres of land adapted to sugar beets as will supply the factory. If a factory requires annually the product of 3,000 acres, it should be surrounded by at least 12,000 acres of good beet land. A mistake which is as certain to be made as that the sun will rise to-morrow morning is to raise beets after beets. The temptation to do so is pressing because the land is in such splendid condition, is relatively free from weed seeds, friable and open. On the other hand, diseases are sure to come if a rotation is not adopted. I have not space to discuss the proper rotation here; it is enough to say that the Germans and French have found that it is necessary to interpose at least two crops between two successive beet crops. Beet diseases have been reported from a few points in the State this year. To prevent their spread it is necessary to raise beets on the same land not oftener than once in three years.

The outlook for the beet sugar industry is bright and promising. If the farmers are fully awake I believe that its success is assured.

C. D. SMITH, Director.
Agricultural College Exp. Sta., Nov. 26, 1898.

AN APPRECIATIVE READER.

Grand Rapids, Mich.

Publishers Michigan Farmer:

Inclosed find money order for two subscriptions to your paper, one renewing my own and one for my neighbor (a new subscriber). After seeing your generous offer in the issue of Nov. 5, I resolved that your subscription list should be doubled if every subscriber would do as I had resolved to do—and did do. Just a word to some neighbor or friend, calling their attention to the terms—and the extra subscriber is obtained.

I often pick up my Farmer and find some single item that seems to me to be worth the entire price of the subscription for the year. Now, I like to have my neighbors enjoy good things, too, and I know they will if they take The Michigan Farmer. Very truly yours,

C. H. BUTLER.

Lucchini, the murderer of the late empress of Austria, was recently tried, found guilty and sentenced to imprisonment for life.

MICHIGAN CROP NOTES.

Potatoes have been selling at 22¢@24¢, a number of cars being loaded at that rate. To-day 23¢ is being paid.—Ewart Review.

W. L. French was taking in about 3,000 bushels of potatoes daily the fore part of the week. Twenty cents per bushel was the price paid.—East Jordan Enterprise.

Archie Crane, of Bridgewater, has sold his crop of 1,500 bushels of potatoes for 25 cents a bushel. Frank Jenkins sold 800 bushels for the same price.—Ann Arbor Argus-Democrat.

The apple crop has proven a source of considerable revenue to our farmers, and we understand there will be a number of new orchards put out in the spring.—Scottville-Enterprise.

Chicago apple buyers located at Lansing have bought from the farmers of this section of the state 24,000 barrels of the fruit, paying for the same the tidy sum of \$45,000.—Grand Ledge Independent.

Corn husking is not nearly completed in this section, and many shocks have been covered with snow. The early winter weather has been a severe setback for farmers.—Grand Ledge Independent.

C. Wellman, the elevator man here, has bought and shipped in the past two weeks over 10,000 bushels of beans, Frank Lemon shipped in the same time 6,000 bushels. Wheat to-day at the elevator is worth 65 cents.—Whitmore Lake Cor. in Ann Arbor Argus-Democrat.

Apples are plenty about Eau Claire this year. Besides the vast amount that was turned into applejack, of which every farmer has from five to ten barrels in his cellar, nearly 10,000 bushels were shipped from there this season.—Dowagiac Republican.

The estimated extent of the potato crop in the vicinity of Marquette this year is 50,000 bushels. Upper peninsula potatoes have a reputation all over the central and southern states, and bring prices considerably in advance of the prices brought by potatoes grown lower down.—Williamston Enterprise.

The apple crop, great as it was in this vicinity, is now a thing of the past, the last shipment going forward last week. In total this station has shipped about forty cars, more by three-quarters than altogether in the last twelve years, and a close estimate places the amount of money paid out here for fruit, labor, etc., at about \$10,000. No wonder the farmer smiles, as does everybody else.—Sparta Leader.

NEWS SUMMARY.

Michigan.

Hon. C. S. Thomas, who was elected governor of Colorado a few weeks ago, is an alumnus of the University of Michigan.

Geo. S. Willis, a native of Michigan, and who represented an Illinois district in Congress a few years ago, died last week in Porto Rico.

Daniel L. Case, a former auditor-general of Michigan and a pioneer resident of the State, died at his home in Lansing last week, at the age of 87 years.

Mark W. Harrington, formerly connected with the University of Michigan, and at one time chief of the national weather bureau, has been put in charge of the United States weather bureau service in Porto Rico. His headquarters will be at San Juan.

It is announced that the branch factory of the Heinz Pickle Company, now located at Holland is likely to be enlarged and made the headquarters of that concern. If Holland citizens raise the necessary bonus, the company will begin the erection of an immense building.

A movement has been started in Detroit looking to the celebration of the 20th anniversary of the founding of the city, by a grand exposition in the summer of 1901. The proposition has been received with considerable enthusiasm by business men and representative citizens of all classes.

The officers of the Washtenaw County Fair Society have published their report, showing receipts and expenditures for the past year. The premiums awarded at their recent fair, which aggregated about \$1,000, were promptly paid, as well as all salaries and other expenses. The society still has a balance on hand of a little over \$100, which, however, is not up to its usual showing on account of bad weather the closing day of this year's exhibition. The officers of the society for the coming year are as follows: Henry S. Dean, president; B. D. Kelley, vice-president; F. E. Mills, secretary; Fred H. Belser, treasurer.

General.

Gen. Blanco sailed from Havana by Spanish steamer on Wednesday of this week.

Lieutenant Hobson, of Merrimac fame, has refused an offer of \$50,000 from a lecture bureau. He prefers not to dim the lustre of his glorious achievement by using it in increasing his private fortune.

A terrific blizzard raged along the Atlantic coast Saturday and Sunday, proving unusually destructive to life and property on the New England coast. The worst disaster so far reported is the loss of the steamer Portland off Highland light Sunday morning. The vessel had about 100 persons on board, none of whom were saved. It is stated that nearly 200 vessels have been wrecked at various points along the coast and more than 200 lives have been lost.

BEST WAY TO SMOKE MEAT.

LIQUID EXTRACT OF SMOKE MAKES THE SMOKE-HOUSE OUT OF DATE.

Thousands of people in all parts of the country have abandoned smoke-houses and now use Liquid Extract of Smoke for smoking hams, beef, sausages and all meats that were formerly smoked by fire. The Extract of Smoke is made by E. Krauser & Brother, of Milton, Pa. It is a pure, clean extract of hickory wood, in liquid form. Circulars will be sent free.



The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD.

We should be pleased to have any of our readers who take an interest in household topics send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters "The Household" to Mrs. Ella E. Rockwood, Flint, Mich.

A SONG FOR MOTHERS.

O, weary mothers, mixing dough,
Don't you wish that food would grow?
Your lips would smile, I know, to see
A cookie bush or a pancake tree.

No hurry, no worry, no boiling pot;
No waiting to get the oven hot;
But you could send your child to see
If the pies had baked on the cherry tree.

A beefsteak bush would be quite fine;
Bread be plucked from its tender vine;
A sponge-cake plant our pet would be;
We'd read and sew 'neath the muffin tree.

HOME CHATS WITH FARMERS' WIVES.

CHRISTMAS GIFTS FOR MEN.

Everybody admits that it is much more difficult to make acceptable gifts for men than for women, and the reason is not far to seek. Men do not have use for the thousand and one little knick-knacks that so delight the heart of the average woman. There are a dozen things to give to a woman to one which would make a suitable gift to a man.

In the line of home-made gifts the list of these is not a wide one. Men do not particularly admire doilies or centerpieces, they have no use for white aprons, while tidies and rugs are their especial abomination since they complain that these are always clinging to their shoulders, or in case of the latter, kicking up under their feet. Indeed, I do not think you will find many men who would mourn the loss of the last rug in the house.

As to handkerchiefs, nothing but plain linen is suitable for men now-a-days, and when these may be purchased for a quarter in good quality, hemstitched, and with initial, it is a doubtful policy to spend the time necessary to make them.

And don't attempt to make a man's tie, unless it be a plain string and out of material already on hand. These are so cheap now that it is useless to attempt their manufacture at home, and they rarely prove satisfactory, either.

Collar and cuff boxes are of the few home-made gifts one can make a man. Either round or square they may be covered with some pretty material and prove not only useful but ornamental as well. Ilka tells us in another column how to make a very pretty one. A handkerchief box would be very pretty made in the same way.

A pretty head rest for his favorite chair would be likely to please a man, or a pillow which he could lay his head upon when taking a midday nap without having his wife come and cover it up with a towel or handkerchief for fear of its getting soiled. And a slipper case, not too frail for actual use, hung in a convenient corner, may be just the reminder that some careless individual needs.

Some things which held an honored place among the gifts which sweet maids once made for their adoring swains, are now obsolete. Under this head we find embroidered slippers and suspenders, dressing gowns, smoking caps, etc., etc.

Any article of house furniture is considered an appropriate gift for a man to make his wife, yet the woman who would buy a new carpet or pair of curtains for her husband would be accused of having two thoughts for herself to one for him. She may give him a chair for his own special use, if she chooses, but that comprises about all in this line, with the exception of a writing desk or a bookcase which a man could claim as his very own. And an easy chair makes a good present for a man, too. But while we can find any number of chairs suitable for women at prices ranging from two dollars up, we find that for a chair substantial enough to hold his lordship in comfort and safety we shall have to pay considerably more. It is doubtful, however, if there is anything a man will appreciate any more than a chair which, while being thoroughly comfortable, is solidly built and not one that keeps him in constant fear

of its going to pieces under his weight.

Among gifts for men, books are always suitable and sensible, unless for some man who does not care to read, and we rarely find such now-a-days. At holiday time there are always bargains in books, and it does not require the outlay of very much money to secure them. They are among the very best gifts for either men or women, boys or girls. Care should be observed in the selection and the book suited to the tastes of the recipient. A good unabridged dictionary would be appreciated in almost any home, and would serve as a most appropriate gift for any member of the family who has reached the age of ten years.

One thing which a man who has driving to do in cold weather always appreciates is a pair of good fur gloves. It will take from four to six dollars to buy them, according to the locality where the purchase is made, but they are a comfort on a cold day and will last several years.

It takes more money to buy a present for a man than for a woman. Of course, I do not mean to include diamond earrings, or sealskin coats in this assertion. Simply, that for a few shillings one can find any number of pretty things suited to a woman's use, while for men everything costs more and the list is limited at that. Poor fellows! Little they know how we are racking our brains to decide what to give them that comes inside the limits of our purse.

HOW A MONTCALM COUNTY HOUSEWIFE MAKES BREAD.

When I saw what our editor wrote about bread, I felt as if I must say a few words on the subject. It does, indeed, seem strange to a good bread-maker that all cannot do as well. I have been places where I saw the bread come out of the oven looking as if it was in the first stages of consumption.

When I tell how I make bread I expect some one will say, Oh, I don't go to so much bother as that. I take two or three tablespoonfuls of flour at noon the day before I want to bake and pour over it the boiling water from the potatoes cooked for dinner, adding about a pint of mashed potatoes. When this has become cool I put into it one yeast cake that has been thoroughly soaked in a cup of warm water. Let this stand in a warm place till night, and if the yeast cake is good it will be all foamy. Then put in a tablespoonful of salt and flour to thicken it to a stiff batter. Beat it five to ten minutes, and allow it to stand until morning, then knead with the hands into one smooth loaf and let it rise until it is as large again in size as it was at first. Then make into loaves, and bake when they are light. The baking is important, too. The oven must be hot and the doors left open a few minutes when the bread is first put in. When done let it cool, then put away in the bread can.

Now, if any one will follow these directions they will have bread that is white, light, and sweet, provided they had good flour and good yeast cakes.

In regard to hired men, or any others, I do not think parents ought to be blamed for what their children do.

But I must close, or I shall not be allowed to come again.

A NORTHERN STAR.

PRETTY CHRISTMAS PRESENTS.

COLLAR AND CUFF BOX.

The foundation for this box is very thick paste-board. Cut four pieces, each seven inches long and five inches wide, these are the sides; cut two pieces, each five inches square, one of these for the bottom, the other the lid. These six pieces are covered on both sides with a pretty shade of pink, china silk, put on very neatly around the edges with fine silk. The four side pieces are now sewed to the bottom, and then the sides are sewed together at the corners; this makes the box seven inches deep and five inches square.

The outside of the lid is covered with white, the thinnest and finest linen-lawn. This is sewed around the edges with fine white silk, then the lid sewed to the box on one side, with white silk in a loose stitch. On this white cover is painted a cluster of fine flowers in bright colors. On the side of the lid opposite the one which is sewed to the box is a loop half an inch long, to lift it by. This loop is of baby ribbon, same color as the silk covering on the box. Sew this in between the

silk covering. Around the box are two lace ruffles put on a little full. The lace is white, silk, with a handsome pattern of roses and leaves, with a pretty scalloped edge. It is three and a quarter inches wide. It will require one and one-half yards of the lace for the two ruffles. The lower ruffle of lace is put on so that the edge just reaches to the bottom of the box, and is sewed on with long stitches where it is gathered, at the very top edge of the lace. Around this, and sewed on at the gathered top, are twenty ribbon loops, each one being one and a quarter inches long. These loops are put on, one at each corner and four on each side one inch apart. The top ruffle is put on so that the scalloped edge reaches just over where the lower one is gathered and sewed on; this will bring it a little distance from the top. Twenty more ribbon loops are put around the top of the lace, same as on the lower piece. Around the top of this covering, where it is sewed on, is a row of half-inch-wide lace insertion; this reaches to the top edge of the box. The loops are made of baby ribbon, same shade as the silk covering the box. On each corner of the lid is a rosette made of loops of ribbon three-quarters of an inch long, twenty loops in each rosette. It will require six yards and a quarter of ribbon.

This box, as described, is very handsome. It was made for a church bazar.

Another collar and cuff box, less expensive than the one described above, is made same size and covered with light pink sateen. Over this the sides of the box have a very thin white net. Around the top edge of the box is a quilling of half-inch-wide, pink ribbon, same shade as the sateen covering. Around the bottom is another row. The top of the lid is covered with a piece of pink sateen, which has a handsome cluster of flowers on it.

COUCH PILLOW.

A beautiful pillow is pieced in hexagonal blocks. In the center is a hexagonal block, the seven pieces comprising it each being two and a quarter inches across the straight sides—each piece has six sides. The centerpiece of the block is a deep rose-pink satin; the six pieces around it are light blue satin. This block is surrounded by single hexagons the same size as in the middle block; these are gold-colored satin. The gold-colored pieces are enough in number to make the pillow half a yard square.

Cut pieces of thick paper the size and shape given above, and cover them

with the satin, then top-sew them neatly together. After all have been sewed together remove the papers and put the satin over a lining of red canton flannel, the fleecy side next to the satin. Where the gold-colored pieces are sewed together they are worked around with a small feather-stitch done with blue embroidery silk, the stitches catching through to the lining. The back to this pillow is bright red silk. The edges of both are sewed firmly together and finished with a thick cord of blue silk.

BUTTON BAGS.

These little bags are made of drab-colored linen. They are six inches long, and four and a half inches wide. At the top is a hem one inch deep, with two rows of stitching at the edge, through which is run the draw string of narrow black ribbon. Leave the bag open at the top on each side the depth of the hem. Run the string in so as to draw both ways. On one side, at the lower corner to the left, is done in outline with black embroidery cotton a small cluster of flowers and leaves. On the upper corner to the right is worked in small fancy letters with black, "Button Bag."

These make useful little presents.

TOILET ORNAMENTS.

A very pretty and useful ornament for the toilet table is made of three Japanese, or baloon baskets, the smallest size. These are sewed together in a group by putting a few stitches through the sides. Make a bow with three loops, and as many ends of bright yellow satin ribbon one inch wide and put this on the top where they are joined, fastening the three loops of the bow, one to each basket. This may be used for holding jewelry or any little article you wish.

Another way for fixing these baskets is to fasten four together in a row, sew them together at the sides and at the top with three bows made of three-quarters-inch-wide satin ribbon. These bows have each two loops and two ends. Sew a loop to each basket. The center bow is made of red ribbon, one end bow is blue and the other old gold.

These little ornaments are useful on the sewing table, and will hold buttons, an emery-ball, thimble, and paper of needles.

Another use for them is to fill them with rose-colored cotton-batting, sprinkled with sachet powder. This will shed a delightful odor through the room.

ILKA.

THE MODERN STOVE POLISH



PASTE
CAKE OR
LIQUID.

Enameline

Every Package Guaranteed.

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Special Fast Diamond Dyes For Cotton That Will Not Wash Out in Soapsuds.

It is absolutely impossible to get a fast and satisfactory color on cotton from the same dyes as are used for woolen goods, and for that reason Diamond Dyes have a specially prepared line of fast colors for cotton that will give perfect satisfaction. If you want to color cotton or mixed goods be sure to get the fast Diamond Dyes for cotton, as they will give colors that will not fade even by washing in strong soapsuds or exposure to sunlight. If any dealer tries to sell you the same dye to color cotton as he would sell you for coloring wool, do not accept it, as such dyes are unreliable, and in the majority of cases will ruin the material on which they are used.

There are some fifty different kinds of Diamond Dyes, so that you can get any color that you wish. By using them in different strengths any desired shade can be made, and all the fashionable colors are readily gotten with these dyes.

To get a fast, rich, full black, use one of the Diamond Dye Fast Blacks. There are three different kinds, for wool, for cotton and mixed goods, and for silk and feathers. They color a rich, full black that cannot be distinguished from new goods.

Diamond Dyes are prepared specially for home use, with very simple directions, so that it is but little trouble or work to use them. A direction book will be sent free to any address. WELLS, RICHARDSON & Co., Burlington, Vt.

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to wash as clean as can be done on the washboard and with much more ease. This applies to Terrill's Perfect Washing Machine which will be sent on trial at wholesale price; if not satisfactory money refunded. Agents Wanted. For exclusive territory, terms and prices write PORTLAND MFG. CO., Box 101 Portland, Mich.

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At a great bargain we offer a big package of beautiful silk remnants. Each package contains from 4 to 50 large pieces of silk—carefully trimmed—and is prepared especially from our large accumulation of exquisite patterns of silk remnants, and they are especially adapted to all kinds of art and fancy work. The most beautiful colors and designs. All remnants of large size. With each box is two skeins of the very best embroidery silk, assorted colors. Send us 14 cents in stamps or coin and get this beautiful assortment, postpaid. For 50 cents we will send enough silk remnants for a quilt 4 sq. yards. Address Paris Silk Agency, Box 3045, N. Y. City.

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A FAMILY KNITTER for \$5. 5,000 stitches per minute. Knits hosiery complete from homespun or factory woolen or cotton yarns. Our Free Circular with samples of work explains everything. This machine sold direct. Address, Perfection Knitting Machine Co., Clearfield, Pa.

"LADIES' GUIDE IN HEALTH AND DISEASE" by Dr. J. H. Kellogg, gives home treatments for all diseases, and good advice to the girl, wife and mother. Agents wanted. Address Modern Medical Pub. Co., Battle Creek, Mich.

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MOTHERS Your Children Cured of Bed Wetting. Sample Free Dr. F. E. May, Bloomington, Ill.

FROM OUR UNIVERSITY TOWN.

The editor of the Household asks for articles treating of Christmas gifts. To all who do not paint in water colors I would say the time and money spent for a few lessons would amply repay one. The expense of the material is very little. One sheet of water color paper will make a number of pictures, which would be very acceptable gifts. Just mount them on white cardboard with a three-and-one-half-inch margin.

There are numerous black and white pictures in the magazines which could be copied in the one color alone. Sepia is a light brown in color, and pictures painted with it have somewhat the appearance of an etching when hung on the wall. Others, for instance a marine view, may be painted in Payne's grey. It would be too difficult a matter for an amateur to attempt more than one color. Should one care to frame them, an oak moulding, quite narrow, would be the most suitable for the brown picture and white for the blue.

I am making pincushions, also. They are made of bolting cloth. As I live in a university town, I am using the college colors—yellow and blue. I use the yellow underneath the bolting cloth, and the blue for a double ruffle, and I paint a design on each end of the cushion, or one could embroider sprays of flowers, only the painting is more quickly done. I also gather a ruffle of lace over the blue ruffle, and a ribbon bow on one corner adds to the effect.

Once given an idea, others will come to the worker. Other material could be used with success—cream surah, or china silk, or even figured silk, and that would do away with the embroidery, and thus be a saving of time.

Should the above ideas meet with favor I will come again.

I hope all who like molasses cake will try the following, which is both easily and quickly made.

One-half cup of molasses, one-half cup sour milk, one-half cup brown sugar, one egg, one and one-half teaspoonfuls soda. Stir the sugar, butter and egg to a cream. Stir one-half of the soda in the milk and the other half in the molasses, and bake either in loaf or flat tin. Use either spices or ginger. I have no rule for the flour. It is always good. If it is stirred quite stiff it seems to be just the same.

GEO. F. ORCUTT.

FOR A COSY NAP.

The remains of an old black wool dress, or of two or three such, can easily be made into a very stylish couch comfort. Cut the black goods into blocks, each ten inches square, and cut a square of wadding of the same size, for each block. Quilt each block separately on the machine, in any and all kinds of fancy patterns, with yellow silk thread. Then sew the squares together, on the machine, line the comfort with black saten and tie the corners of the blocks with yellow Saxony yarn. Crochet lace from the yellow yarn, any pretty pattern about five inches wide, and put around the edge.

This comfort is pretty, warm and not easily soiled.

GLADYS HYATT.

COLORING HINTS.

Replying to Mrs. T.'s request in a recent number, the Magic Dye Co., who advertise with us, have sent the following:

The brightest and best colors can be produced by using enameled or aluminum dishes, but new tin, clean brass, or copper answers well for all ordinary colors of modern dye-stuffs. Full directions are on every package. The stain on sides of dishes can be removed by scouring with the ordinary household scouring material, aided by using an acid for some colors and an alkali for others.

CONTRIBUTED RECIPES.

Sour Cream Cake.—One-half cup of butter, two cups of white sugar. Cream butter and sugar together, then add three eggs whipped very light, stir and add one cup of sour cream, in which has been dissolved half a teaspoonful of soda. Add by degrees three cups of sifted flour. Bake in moderate oven.

Ginger Drop Cakes.—Two eggs, one cup of sugar, one cup of molasses, one cup of sour cream, half a teaspoonful

of soda, one teaspoonful of ginger, flour enough to make a thin batter. Drop in spoonfuls into pans and bake slowly. Try a little first to see that the quantity of flour is right.

Cookies.—One cup of white sugar, one and one-half cups of flour, one-half teaspoonful of soda, two eggs beaten in a cup, then fill the cup with sour cream, flavor with nutmeg, roll them, bake in moderate oven.

ILKA.

D. D.—Use the Magic dye scarlet for the purpose spoken of; it is brilliant and very fast.

The Poultry Yard.

For The Michigan Farmer.

WHEN EGGS ARE LOW IN PRICE.

It is sometimes a difficult matter to make a profit when cash buyers are offering eight and ten cents per dozen for eggs; but poultry-raisers must make a profit in summer and winter, and so the problem comes up frequently for solution. A great many fail to make any profit in winter with eggs, and look to the spring and summer eggs for their reward. It is a little disappointing then to get starvation rates for them.

Nevertheless, it is possible to make eggs pay winter and summer, and that is the only way we can expect to make this business give us a living. Nature makes some compensation in summer by providing us with more and cheaper food. We must reduce the expense of feeding the chickens in order to make eight cents pay any profit. A man ought not to enter this business for a living unless he has land enough to accommodate all the chickens he needs. Overcrowding in summer is one reason why fewer eggs are laid. A yard that will accommodate twenty chickens in winter or early spring and late autumn, is not large enough for more than half that number in summer. Reduce the number in each yard, and they will increase the number of eggs laid a day. Ten to fifteen hens in one yard lay almost as many eggs as twenty and thirty in another. The reason is plain.

In feeding during hot weather, green things are really better for the hens than so much grain and meat. They are also cheaper, for it is inconceivable that a man in this business does not have a vegetable garden and clover field. Feed them clover hay chopped into half-inch lengths every day. The best way to do this is to steam it in hot water over night. Vary this diet with equal parts of steamed cornmeal, bran and middlings. Stir this in with the chopped clover, and the hens will eat the mixture greedily. Green clover, of course, must be fed whenever it is in season.

It pays to make some arrangements to purchase all sorts of odd scraps of meat at the butchers, or the skim-milk at some nearby creamery. Such feed comes in handy in hot weather, and it saves on the grain item. In fact, there are dozens of ways of economizing the grain bill without injuring the health and paying powers of the hens.

Massachusetts.

C. S. WALTERS.

INTERNATIONAL POULTRY EXHIBITION.

The U. S. Department of Agriculture has received notice through the Department of State from Count Cassini, Russian Ambassador, that the Russian Society of Bird Dealers will hold an International Poultry Exhibition at St. Petersburg from the 13th to the 28th of May, 1899. Exhibitors will be granted reduced rates for their exhibits on all Russian railroads, and free entry for same on condition that they are exported from Russia within two months after the close of the exhibition.

The exhibits are to consist of nine classes as follows: Domestic birds; domesticated wild birds; pigeons; singing and exotic birds; fattened poultry and killed fowl and game; products of poultry keeping; apparatus and accommodations for breeding, guarding, fattening, and transporting birds; models of poultry-yards, incubators, etc.; medical, hygienic, antiseptic, and feeding articles; and photographs, nests, stuffed birds, eggs, etc.

Exhibitors will be required to pay an entrance fee for their exhibits before their arrival at St. Petersburg and to send notice of their intention to enter exhibits to the Committee of Organization of the International Poultry Exhibition, Fontanka, 13, Imperial

Agricultural Museum, St. Petersburg, Russia.

Diplomas of honor; gold, silver, and bronze medals; honorable mentions; and objects of artistic value will be awarded as prizes.

TRUE MARKINGS OF BRONZE TURKEYS.

A Bronze turkey tom, to be correct in plumage and form, says Geo. Wolf in Poultry Monthly, must possess a large, well-formed head wattle of a good, healthy red color, the carunculations to be profuse at a base of red on neck. Beak, light horn color at tip, growing darker at base. Eyes, dark in color. Neck, long and well curved. Breast, broad, deep and well rounded, but must not drop so low as to injure symmetry, as is occasionally seen in aged toms. Back should be wide and strong, rising gently from base of neck to center of back, then gracefully descend to tail. In color, neck, back, and breast should be very brilliant in bronze, the more brilliant the better. As we start from neck, each feather ends with a very narrow black band, which grows slightly wider as we near the end of back and breast.

Wings, large and powerful. The primary or flight feathers must be black or nearly so, each feather to be pencilled with white or gray bars. Many Bronze turkeys are very faulty in primary color as those feathers are very apt to be too dull and irregular in pencilling, especially as we near the quill ends of those feathers. The secondary feathers are similar to primary color, but not so clearly defined. As you leave the center of secondary feathers and count up toward the back, the color rapidly changes to a bronzy brown, which has more or less luster when seen in the sunlight.

The tail must be black, irregularly pencilled with narrow bands of light brown. I do not approve of too much pencilling in above section, as I find in fully pencilled tails that brown predominates over black in most every instance, and has a tendency to lighten thigh color and injure or destroy the broad black band on tail covert. The tail covert should be like main tail in color; lesser coverts are usually more brilliant in bronze. Many years since, I discovered white pencilling (under tail covert) on main tail feathers of many Bronze turkeys. It usually confines itself to two or four of the center feathers, and sometimes extends the entire length of tail feathers. It usually keeps out of sight from the ordinary observer by not extending beyond the covert. The markings are similar to those of primary wing feathers, but are usually not so decided in white. I have examined flock after flock for this defect and find it every time. We should try to breed this defect out of our flocks as far as possible, unless we are only breeding for market purposes. We often find the edging of tail coverts to be cinnamon in color. It denotes wild blood, which means hardy, quick-maturing birds for market breeders, but contrary to exhibition color which must be dull white on exhibition specimens.

Legs, long and very strong. Thigh color dark, approaching black. Shanks dark in young birds, but in adult birds the color usually changes to a pinkish hue.

The entire plumage of a Bronze female is dull when compared to the male, and breast feathers are always edged with dull white. In build, an exhibition Bronze turkey must be very sturdy and rangy, and should be full of life.

When mating for market purposes, color is a secondary consideration. Broad, heavily built birds, of compact form, should always be mated, as such birds mature earlier than our ideal exhibition type.

To mate for exhibition or to improve other flocks that are being bred for this purpose, I would select a male bird with moderately long legs, with immense frame and bone, and as near perfect as possible in all color and shape sections. His mates should be large in size and as near standard in form and plumage as is possible to get them. The results from such matings cannot fail to prove satisfactory.

I would not advise mating immature specimens for breeding under any consideration, as the offspring from such matings are sure to be weak and puny, and they must be blessed with a favorable season and extra care or the mortality is sure to be great with such flocks. I am ashamed to say, many people use just such turkeys to breed

from. They style themselves as progressive farmers, and after a few failures they say it does not pay to raise turkeys. If those same farmers were compelled to practice this sort of breeding with horses, cattle, sheep and swine, they would quickly note the difference in the progeny of mature and immature stock. I fear those people might blush with shame at their foolish ideas of expecting paying results from such silly matings with turkeys.

We Will Give One Thousand Dollars

To the agent sending us the largest list of subscribers up to April 15, 1899; \$500 to the next largest, and so on. 500 of our agents will share in the distribution of \$11,500, BESIDES receiving a good commission for all work done. Send for particulars.

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Get our 15-page Successful Incubator and Brooder catalogue, fully illustrated. Contains useful hints on poultry raising and important information not in others. Mailed for 6 cents stamps. Worth a dollar. DES MOINES INCUBATOR CO., Box 55 Des Moines, Iowa.

CHICKEN MONEY
to get it; how to mate, breed, feed and market poultry. Cuts and plans for building poultry house and cost of same. These and many other things together with CYPHERS INCUBATOR which is sent freight paid to every purchaser is contained in our Poultry Guide. Sent for 10c. The Cyphers Inc. Co. Box 94 Wayland, N.Y.

HATCH CHICKENS BY STEAM—with the simple, perfect self-regulating EXCELSIOR INCUBATOR. Thousands in successful operation. Lowest priced 1st-class hatcher made. GEO. H. STANLEY, 114 to 122 S. 6th St., Quincy, Ill.

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Legal Department.

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56 Moffat Building, Detroit.

Divorce decree determines property relationship between the parties.—F. A., Hillsdale county, Mich.—In case of divorce the decree determines their property relationship; the marriage contract is dissolved and neither is entitled to any property from the other which is not provided for in the decree.

Married woman's note.—W. S., Blanchard, Mich.—A married woman is not liable as endorser on her husband's note, except upon a sufficient consideration paid to her for doing so. It is not valid if given merely for purpose of securing husband's debt. To hold an endorser after date of maturity it is necessary to protest note for non-payment.

Folly to sow when you may not reap.—Subscriber, Chesaning, Mich.—My term as tenant on shares expires in December. Last September I put in wheat; can I harvest same and hold my share of straw?—You cannot, unless you have an express agreement to the contrary. A tenant cannot prolong his term in this way. It is folly to sow when you know your term expires before you can reap.

Pension money may be taxed.—Subscriber, Springfield, Mich.—1. If a pensioner loans money saved from his pension, can it be taxed?—Yes. The law makes no distinction between pension money and money acquired in any other way. 2. If a pensioner owes a man, would it be criminal for a creditor to ask pensioner for his next pension?—Certainly not. Write to Commissioner of Pensions, Washington, D. C., for answer to your third question.

When division of line fence binding on successors.—A. R. H., Pontiac, Mich.—A and B own adjoining 80s, with 160 rods of line fence between them, and equally divided, and about which there has never been any dispute. B now sells one-half of his farm, or a 40, to C. Would that necessarily compel A to submit to a new division line?—In order to make a division of a line fence binding upon subsequent purchasers, assigns and successors, it is necessary to take either one of the two steps outlined here below. First, to have such fence divided and assigned to the respective owners by the fence viewers and file with the township clerk the assignment thus made, or second, that the owners themselves divide and assign such fence by mutual agreement reduced to writing and file such written agreement with the township clerk.

Hunting on Inclosed Land of Another Prohibited.—S. M., Baroda, Mich.—What is the law about hunting on a man's farm when he has notices up? Is there any particular number of notices required?—It is customary to post notices prohibiting hunting, but this is not necessary, for the law is effective without such notices and is itself all the notice that is necessary. The statute is as follows: "It is unlawful for any person or persons to hunt for game with firearms, dogs, or otherwise, on any inclosed lands or premises of another in any county of this State without the consent of the owner or lessee of such lands or premises. Any person or persons violating the provisions of the foregoing section of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall pay a fine of not less than five nor more than twenty dollars, in the discretion of the court, and costs of prosecution. And in case the fine imposed and costs of prosecution shall not be paid, the defendant shall be confined in the county jail of the county not less than five nor more than thirty days. Provided, however, that no complaint shall be made or entertained against any person for the violation of any of the provisions of this act, unless the same shall be made by the owner or lessee of the land or premises so trespassed upon."

Union Ticket Office, Michigan Central and Lake Shore, Move.

The Union Ticket office will be moved from the corner of Woodward and Jefferson Aves. about Dec. 10th to its excellent new quarters in the Detroit Opera House Block.

A Knitting Machine is as essential in the home as a sewing machine. The Perfection Knitter saves its cost, \$5, many times a year. Knits 5,000 stitches a minute. We advise our readers to send for free circular and samples of work. See adv. elsewhere in this issue. Address, Perfection Knitting Machine Co., Clearfield, Pa.

The Markets.

WHEAT.

The conditions which have prevailed in the wheat market for the past month still obtain. There is a large amount of grain being marketed in the northwest, but so far this has not produced any excess accumulation of stocks, the demand from millers and for export preventing any more than a normal increase in the visible supply from week to week. It is altogether probable that with the advent of winter with its bad roads in the newer settlements, receipts will decrease, and if the present demand continues stocks at distributing points will be drawn upon for supplies. Of course there is always the fear that the large Russian crop will begin coming forward through the Black Sea, as the Baltic will soon be closed until spring. If the Russian crop is as large as represented, and farmers begin selling freely, the resulting competition is likely to force down prices in foreign markets. If it does not take place, then we look for better prices to prevail within thirty days. And the Russian surplus may be greatly reduced through the requirements of sections in which the crop was a failure. That is the situation as we view it. The outlook seems to be improving abroad, and foreigners are buying freely.

The following table exhibits the daily closing sales of spot wheat in the Detroit market from November 10 to December 1, inclusive:

	No. 2	No. 1	Mixed	Red	White	Red	White
Nov. 10.....	69	69	68½	68½	68½	68½	68½
" 11.....	69½	69½	69½	69½	69½	69½	69½
" 12.....	70	70	69½	69½	69½	69½	69½
" 13.....	71	71	70½	70½	70½	70½	70½
" 14.....	71	71	70½	70½	70½	70½	70½
" 15.....	70½	70½	70½	70½	70½	70½	70½
" 16.....	70½	70½	70½	70½	70½	70½	70½
" 17.....	70½	70½	70½	70½	70½	70½	70½
" 18.....	70½	70½	70½	70½	70½	70½	70½
" 19.....	70½	70½	70½	70½	70½	70½	70½
" 20.....	71½	71½	71½	71½	71½	71½	71½
" 21.....	71½	71½	71½	71½	71½	71½	71½
" 22.....	71½	71½	71½	71½	71½	71½	71½
" 23.....	71½	71½	71½	71½	71½	71½	71½
" 24.....	70½	70½	70½	70½	70½	70½	70½
" 25.....	70½	70½	70½	70½	70½	70½	70½
" 26.....	69½	69½	69½	69½	69½	69½	69½
" 27.....	69½	69½	69½	69½	69½	69½	69½
" 28.....	69½	69½	69½	69½	69½	69½	69½
" 29.....	69½	69½	69½	69½	69½	69½	69½
" 30.....	69½	69½	69½	69½	69½	69½	69½
Dec. 1.....	70½	70½	70½	70½	70½	70½	70½

The following is the record of the closing prices on the various deals in futures each day during the week:

	Dec.	May.
Friday.....	70½	70
Saturday.....	69½	69½
Sunday.....	69½	69½
Monday.....	69½	69½
Tuesday.....	69½	69½
Wednesday.....	69½	69½
Thursday.....	69½	69½
Friday.....	70½	70½

The visible supply of wheat in the United States and Canada on Saturday last was 22,369,000 bu, as compared with 21,392,000 bu the previous week and 33,656,000 bu at the corresponding date in 1897. The increase for the week was 1,977,000 bu. In the same week last year the increase was 948,000 bu.

The visible supply increased nearly double what was expected. This caused a weakening of values, which was only overcome by the good demand for export. It is difficult for the oldest and best informed grain and export men in the trade satisfactorily to explain the continuance of an active demand for all grains from abroad in the face of reports that Europe had average crops. Those who have studied the situation say that they have never seen anything like it, as there has never been a time when they could sell as much cash grain to the other side at a profit without affecting prices. Either foreign farmers are holding their crops back or they were not as large as reported.

The Modern Miller says: "All flour markets have been dull this week, with a generally unsatisfactory in every respect. Many southeastern mills are running only half time and have accumulated surplus stocks. Southwestern mills are generally running full time and working off their product with more or less difficulty."

The San Francisco Commercial News of November 23 says: "Rain throughout the state, except in the extreme south, has been of the greatest benefit in more than one way. It has not only benefited pasturage and the growing grain, but restored plowing and seeding above all, it restored confidence, for, having passed through one dry winter, business men were getting nervous about the protracted dryness of the fall. Courage and hope are restored, the state today is just where it should be, and confidence is felt that further rains will follow in due season."

The Sydney Morning Herald, November 15, says: "The New South Wales crop reports are of a somewhat mixed character. The drought is undoubtedly severely felt in parts and more centers will show a decreased yield than the reverse. Present indications, however, point to a yield exceeding last year's, leaving a comparatively small exportable surplus."

Comparing the figures in the visible supply last year with those of the present season, it is apparent that arrivals so far have kept very even. At the beginning of the crop year the visible was about 11,000,000 bu, less than at the same date last year, and this difference is yet maintained.

A dispatch from Reading, Pa., says: "Those engaged in manufacturing flour for export in this section report that there is a scarcity of vessels. The Reading railroad Company has 1,000 cars, loaded with flour, side-tracked along the line, waiting for vessels to ship the output of east Pennsylvania mills to foreign ports. Local millers are paying 72c for wheat, but cannot get enough from home farmers to keep their steam mills going twelve hours a day."

New York Herald Argentine special says: "The coming crop will probably be a good one despite damages caused by frost. The export surplus of wheat, it is calculated, will be \$3,750,000 bu.; corn, 28,000,000 bu., and flax, 150,000 tons."

effect upon markets, because of the great exhaustion of old stocks, just as the immense American crop has failed to have much effect. There is no valid reason for doubting that the Russian crop is really a large one. That new wheat has been slow to come forward, and has been held above our level, may be attributed to the attraction of high prices in the interior, caused by famine in the Volga districts and by the depleted stocks of old wheat. Stocks, it is true, are now increasing in the ports, but activity in Russian exports seems hardly probable before the spring. Russia has a crop of 56,500,000 qrs.; it would indicate that if necessary, or if prices were sufficiently attractive, Russia could spare 30,000,000 qrs., but probably only 12,000,000 qrs. will be exported, because that quantity is probably all that the importing countries will require, and because prices will not be attractive enough for the Russian holder, who will prefer to reconstruct the reserve stocks."

DAIRY PRODUCTS.

BUTTER.

The market is not so strong as a week ago, and at present offerings are in excess of the demands of the market. So far however, prices are unchanged, but it requires a higher grade of stock to secure top prices. There is more or less shading of anything below first quality. Quotations range as follows: Creamery, 20¢@21¢; fancy dairy, 16¢@18¢; fair to good, 13¢@15¢; low grades, 9¢@11¢. At Chicago the market is quiet and steady, with supply fully equal to all requirements. Quotations are as follows: Creameries, extras, 21¢@21½¢; firsts, 19¢@21¢; seconds, 14¢@17¢. Dairies, extras, 18¢@18½¢; firsts, 14¢@15¢; No. 2, 12¢@13¢. Ladies, extras, 12¢@14¢. Packing stock, 11¢@12¢. Roll, 12¢@14¢. The New York market has developed a little easier tone, not from any increase in the supply, but because of an exceedingly dull trade. Strictly fancy fresh table grades are holding up better than other qualities, but even these have eased off a little, and at the close 23¢@23½¢ is a full quotation for the finest. Some very choice lots are offering at 21¢@22¢, and there is a considerable proportion of stock from 17¢@20¢ which is very hard to dispose of. Quotations on Thursday were as follows: Creamery, western fancy, per lb, 23¢@23½¢; do prime to choice, 20¢@22¢; do thirds to seconds, 15¢@19¢; do State, finest, 22¢; do prime to choice, 20¢@21¢; do thirds to seconds, 15¢@19¢; Western, June, extras, 20¢@21¢; do firsts, 18¢@19½¢; do seconds, 16¢@18¢; State dairy, half-firkin tubs, fall made, finest, 19¢@20¢; do half-firkin tubs, firsts, 17¢@18¢; do thirds to seconds, 15¢@16¢; State dairy, firkins, fancy, 18¢@19½¢; do seconds to firsts, 15¢@17¢; Western imitation creamery, finest, 17¢@17½¢; do firsts, 14½¢@15½¢; do thirds to seconds, 13¢@14¢; June, extras, 14¢@14½¢; do seconds to firsts, 13¢@13½¢; factory, fresh, finest, 14¢@15¢; do seconds, 13¢; do lower grades, 12¢@13¢; rolls, fresh, fancy, 15¢@16¢; do common to good, 12¢@14¢.

At Elgin on Monday fancy creamery sold steadily at 22c per lb, and all offered was taken.

CHEESE.

The market is steadily strengthening and the position of holders is a strong one at present. Values, however, are yet low for the season, and while an advance has been made in the past week, it is quite probable the top has not yet been reached. The firmness noted is common to markets on both sides of the Atlantic, the gain in Liverpool being quite important. In this market the best full creams now command 11c, and the tone of the trade is firm. At Chicago the market is steady at an advance. Quotations are as follows: Young Americas, 9¢@10¢; twins, 8¢@10¢; cheddars, 8¢@9¢; Swiss, 9¢@10¢; Ilmburger, 6¢@8¢; brick, 6¢@9¢. The New York market is firm and active at an advance. The Tribune in its weekly review, says: "The receipts of large full cream cheese continued moderate the last week, and with a fair demand from the home trade prices have ruled firmly and gradually gaining strength. Most of the receipts at the close of last week were late October cheese and as the weather was favorable throughout October quality has shown unusually fine for the season. The bulk of sales have been at 9¢@9½¢, with occasional exceptionally fine lots not obtainable at the higher figure. At the close the current receipts are mostly November make, showing the usual late defects, and 9¢ about all that can be reached. Exporters have been in want of a few cheese, but home trade dealers have secured most of the current offerings and have been willing to pay a trifle above exporters' views." Quotations in that market are as follows: State, full cream, large, colored or white, fancy, per lb, 9½¢; do colored, choice, white, choice, 9¢@9½¢; do good to prime, 8¢@9¢; do common to fair, 7¢@8¢; do fall made, small, colored, fancy, 10¢; do small, white, fancy, 10¢; do good to choice, 9¢@9½¢; do common to fair, 7¢@8¢; light skims, small, choice, 7¢@7½¢; do large, choice, 6¢@7¢; part skims, small, choice, 6¢@6½¢; do large, choice, 5¢@6¢; do good to prime, 5¢@5½¢; do common to fair, 3¢@4¢; full skims, 3c. At Liverpool on Thursday American cheese was quoted as follows: Prime white, 4s. 6d per cwt.; prime colored, 4s. 6d per cwt. These figures show a substantial advance since our last report.

WOOL.

The important feature of the wool market the past week was the opening of the sixth series of the London sales. The attendance on Tuesday, the opening day, was large, and about all sections except the United States were represented. The continent took most of the offerings. Merinos offered included many lines of New South Wales and Queensland stock. New clips were in good condition, while crossbreds contained a large proportion of slipes throughout. The French and German buyers competed spiritedly with the home buyers for Queensland and New South Wales scoureds, which were in strong demand at higher figures and advanced 5 per cent. There was a large inquiry for South Australia and West Australian greasies. Crossbreds sold at unchanged rates. Medium coarse was neglected and declined 5 per cent. Later reports say that while Merinos and fine crossbreds are actively competed for, crossbreds generally were in poor condi-

tion and sold at a decline of 5¢@7½¢ per cent below prices obtained at the October sales.

On this side of the Atlantic the wool trade has not shown any features of special interest. Sales have been of fair proportions and at unchanged prices. The steady depletion of stocks is inspiring holders with more faith in the future. Purchases the past week have been largely of home-grown stock, and the tendency of the market is toward increased firmness in good Merinos and fine crossbreds, which are likely to become very scarce before the expiration of the clip year. Of course the future of the market depends largely upon the demand for goods. With a cold winter, and the fact that labor is generally well employed, there would be an enormous demand for heavy woolsens, and this we regard as probable. We shall see a much better demand for wool from manufacturers within the next thirty days.

DETROIT PRODUCE MARKET.

Detroit, December 1, 1898.

FLOUR.—Quotations on jobbers' lots in barrels are as follows:

Straights.....	\$3.50
Clear.....	3.25
Patent Michigan.....	4.00
Low Grade.....	3.00
Rye.....	3.25

CORN.—The visible supply of this grain on Saturday last in the United States and Canada was 22,369,000 bu, as compared with 21,392,000 bu the previous week, and 33,656,000 bu at the corresponding date in 1897. Quotations in this market are as follows: No. 2, 35½¢; No. 3, 35¢; New No. 3, 33½¢; New No. 4, 32¢; No. 2 yellow, 36¢; No. 3 yellow, 35½¢; New No. 3 yellow, 34¢; New No. 4 yellow, 32½¢ per bu.

OATS.—The visible supply of this grain in the United States and Canada on Saturday last was 5,586,000 bu, as compared with 5,756,000 bu the previous week, and 15,261,000 bu at the corresponding date in 1897. Quotations in this market are as follows: No. 2 white, 25¢; No. 3 white, 28½¢ per bu. Market firm.

BARLEY.—The visible supply of this grain in the United States and Canada on Saturday last was 3,892,000 bu, as compared with 3,784,000 bu last week, and 5,891,000 bu at the corresponding date in 1897. Fair to good samples command 95¢ @ \$1.00 per bu. Market firm.

RYE.—The visible supply of this grain in the United States and Canada on Saturday last was 1,139,000 bu, as compared with 1,021,000 bu the previous week, and 3,595,000 bu at the corresponding date in 1897. No. 2 quoted at 55¢ per bu, and steady.

CLOVER SEED.—Prime spot is quoted at \$4.50 per bu; December at \$4.50; March, \$4.75; No. 2 selling at \$3.25@4.00. Alsike quoted at \$4.45 per bu for prime and \$3.00 @ \$4.00 for common to fair.

BEANS.—Market steady at \$1.06 per bu for December delivery, and \$1.06 for January.

FEED.—Bran, \$12.00; coarse middlings, \$13.00; fine middlings, \$14.00; cracked corn, \$15.00; coarse cornmeal, \$14.00; corn and oat chop, \$13.00 per ton in jobbing lots.

POTATOES.—The market is quiet and weak, with quotations unchanged. Dealers quote 30¢@33¢ per bu in large lots, but farmers only get those prices on small lots in wagons. At interior points prices are lower, ranging from 22 to 25¢ per bu. At Chicago, latest quotations are 27¢@33¢ per bu. At Pittsburg on Wednesday the range was 33¢@42¢ per bu., the latter for best white stock in bulk; red stock, 33¢@37¢ per bu; mixed, 32¢@35¢ per bu.

CELERY.—Selling at 20¢@25¢ per dozen. ONIONS.—Selling at 35¢@37½¢ per bu on market, and jobbers quote 30¢ in large lots. At Pittsburg quotations are 25¢@35¢ per bu for red, and 35¢@40¢ for prime yellow.

CABBAGE.—Quoted at \$3.25@3.50 per ton in large lots, and \$1.00@1.25 per 100 on the city market.

APPLES.—Snow, \$3.50@4 per bbl; best winter fruit, \$2.75@3 per bbl; fall apples \$1.75@2 per bbl.

QUINCES.—Quoted at 50¢ per bu.

PEARS.—Keffers, \$3 per bbl.

DRIED APPLES.—Evaporated, 7½¢; dried, 3¢@3½¢ per lb.

LIVE POULTRY.—Market over-supplied and weak. Chickens, 5¢@6¢; fowls, 4¢@5¢; ducks, 6¢@7¢; turkeys, 8¢@9¢; geese, 6¢. Dressed quoted 10¢@12¢ higher. At Chicago dressed are quoted as follows: Turkeys, 7¢@9¢ per lb; chickens, 6¢@7¢; ducks, 6¢; geese, 6¢@7¢.

BEGGS.—Fresh, candied, 19¢@20¢ per doz; cold storage, 16¢@17¢ per doz. Market very firm. Small lots from wagons have sold 2¢@3¢ higher than above quotations.

BALED HAY AND STRAW.—Best timothy, in car lots, \$8 per ton; rye straw, \$5; wheat and oat straw, \$4.00.

WOOL.—Nominal quotations in interior markets are as follows: Unwashed fine, 14¢@15¢; washed fine, 19¢@20¢; unwashed medium, 18¢@20¢; washed medium, 22¢@23¢ per lb.

HIDES.—No change in the range of prices. Quoted as follows: No. 1 green, 7½¢; No. 2 green, 6½¢; No. 1 cured, 9¢; No. 2 cured, 8¢; No. 1 green calf, 10¢; No. 2 green calf, 8½¢; No. 1 kip, 7½¢; No. 2 kip, 8¢; sheepskins as to wool, 40¢@70¢; shearlings, 10¢@50¢.

PROVISIONS.—No changes have occurred since our last report. Market rather weak. Quotations are as follows: Mess pork, \$9.75 per bbl; short cut mess, \$11.75; short clear, \$11@11.50; compound lard, 4½¢@5¢; family lard, 4½¢; kettle lard, 6¢; smoked hams, 8¢@8½¢; bacon, 5¢@5½¢; shoulders, 5½¢; picnic hams, 5½¢ per lb.

OILS.—Turpentine is again higher. No other changes to note. Quotations range as follows: Raw linseed, 35¢; boiled linseed, 36¢, less 1c for cash; extra lard oil, 50¢; No. 1 lard oil, 35¢; water white kerosene, 8½¢; fancy grade, 11½¢; turpentine, 43¢ per gal in bbl lots.

HARDWARE.—We note a decline in wire and steel cut nails, and sheet iron; glass is a shade higher. Quotations are as follows: Wire nails, \$1.50; steel cut nails, \$1.45 per cwt, new card; axes, single bit, bronze, 5¢; double bit, bronze, \$3.50; single bit, solid steel, 6¢; double bit, solid steel, \$5.50 per doz; bar iron, \$1.35; carriage bolts, 75 and 10 per cent off list; tire bolts, 75 per cent off list; painted barbed wire, \$1.65; galvanized, \$2 per cwt; single and double strength glass, 80 and 15 per cent off list; sheet iron, No. 24, \$2.35 per cwt, galvanized, 75 and 10 per cent off list; No. 9 annealed wire, \$1.45 rates.

DETROIT LIVE STOCK MARKET.

Michigan Central Stock Yards.

December 1, 1898.

CATTLE.

Estimated receipts, Thursday, 400; one week ago, 733. Market fairly active and unchanged from prices paid one week ago. \$4.40 was top price to-day for 3 good butcher steers av 1123 lbs, but the bulk changed hands from prices ranging from \$3.25 to \$3.75; bulls, common to good butchers, \$2.50 to \$3.25; fair to good butcher cows, \$2.75 to \$3.50; canners and common thin butchers, \$1.40 to \$2.65; stockers, \$2.25 to \$3.60; feeders, \$3.60 to \$4.00. Veal calves.—Receipts, 110; active at \$5.50 to \$6.50 per 100 lbs, mostly \$5.75 to \$6.25. Milch cows and springers active; sales ranged from \$30.00 to \$55.00 each, mostly \$35.00 to \$45.00 each.

Discher sold Sullivan a heifer weighing 870 at \$3.65, and a cow weighing 1120 at \$3.00.

Ackley sold same 9 mixed butchers av \$55 at \$5.00, 2 cows av 940 at \$2.10, and 4 do av 1190 at \$3.00, 2 stockers av 680 at \$3.40, a bull weighing 760 at \$2.75, and 1 do weighing 1450 at \$3.00.

Bchimer sold Michigan Beef Co 6 mixed butchers av 916 at \$3.50.

Burden sold Robinson 7 do av 790 at \$3.55.

Erwin sold same 3 mixed stockers av 610 at \$3.25, 4 steers to Sullivan av 677 at \$3.60, and 6 mixed butchers to Caplis & Co av 991 at \$3.20.

Pierhouse sold Marx 4 mixed butchers av 915 at \$3.40.

Sly sold Mason & F 4 heifers av 700 at \$3.50.

Glenn sold Sullivan 4 steers av 962 at \$3.60, and 4 mixed butchers to Jerow av 815 at \$3.40.

Kelsey sold Kammen 3 cows av 886 at \$2.60.

Miller sold Caplis & Co 4 steers av 1012 at \$4.00, and a cow weighing 830 at \$2.85.

Spicer & M sold Mich Beef Co 3 stockers av 1186 at \$4.00, 2 cows av 1033 at \$2.80, a bull weighing 1120 at \$3.10, and 2 heifers av 710 at \$3.70.

Cushman sold Russell 4 steers av 845 at \$4.00, and 2 mixed av 870 at \$3.50.

Pakes sold Regan 11 mixed butchers av 662 at \$3.25, and 2 do av 850 at \$2.75.

Shook sold Sullivan 4 stockers av 592 at \$3.30.

Cushman sold Caplis & Co a bull weighing 770 at \$2.50, and 7 mixed butchers av 967 at \$2.75.

Dennis sold Black 5 mixed butchers av 890 at \$3.00, and 21 do av 850 at \$3.75.

Spicer & M sold Sullivan 4 mixed stockers av 575 at \$2.90.

Haley sold Frey 5 mixed butchers av 650 at \$3.40.

Blair sold Sullivan 10 steers av 622 at \$3.60.

Roe & Holmes sold same 2 bulls av 700 at \$3.00, 2 heifers av 680 at \$3.40, and a cow weighing 1300 at \$3.00, 2 mixed to Robinson av 1240 at \$4.00, 7 mixed butchers av 971 at \$3.00, and 4 stockers to David av 685 at \$3.35.

7 do to Hannan av 405 at \$3.50, 2 canners to Mason & F av 840 at \$1.40, and 4 mixed butchers to Robinson av 795 at \$3.15.

Blair sold Mich Beef Co a bull weighing 1270 at \$3.10.

Johnston sold same a bull weighing 1350 at \$3.25, 3 mixed butchers to Caplis & Co av 630 at \$3.20, and 3 do av 846 at \$3.90.

SHEEP AND LAMBS.

Estimated receipts Thursday, 1,250; one week ago, 1,114. Market active with sales at about last week's prices. Range: Good lambs, \$4.75 to \$5.00; light to good and buckly lots, \$4.25 to \$4.65; yearlings and good mixed lots, \$3.90 to \$4.40; fair to good butchers, \$3.00 to \$3.75; culls and common, \$2.00 to \$2.50.

Ackley sold Hiser 10 culls at \$1.50 each and 34 common butchers av 75 at \$2.50.

Roe & Holmes sold Robinson 27 lambs av 77 at \$4.75, 3 do av 103 at \$5.00, 5 mixed av 60 at \$4.00 and 10 sheep av 80 at \$2.50.

Taft & Tubbs sold Mich Beef Co 62 lambs av 81 at \$4.35.

J Stephens sold Sullivan Beef Co 55 mixed av 60 at \$2.85.

Lamaroux sold Monaghan 31 lambs (bucks) av 72 at \$4.35.

Hoover sold Sullivan Beef Co 46 lambs av 65 at \$4.65.

Davies sold Mich Beef Co 50 lambs av 63 at \$4.50.

Zander sold same 22 lambs av 50 at \$4.25.

Spicer & M sold Fitzpatrick 30 lambs av 82 at \$4.70.

McLaren sold same 17 mixed av 65 at \$3.00, 51 lambs av 72 at \$4.75 and 64 do av 65 at \$4.75.

Stevens sold Sullivan Beef Co 59 mixed av 83 at \$2.80.

HOGS.

Estimated receipts Thursday, 10,000, as compared with 7,616 one week ago. Market opened rather slow, later trade was active at prices 5 to 7½¢ below those paid last Friday. Range of prices, \$3.20 to \$3.27½, mostly \$3.22½ to \$3.25; pigs and light hogs, \$3.20 to \$3.25; stags, 1-3 off; roughs, \$2.65 to \$2.75.

Spicer sold Farnum 11 av 186 at \$3.75.

Spicer sold same 10 av 184 at \$3.20.

Spencer sold Hammond, S & Co 82 av 202 at \$3.25.

Roe & Holmes sold same 64 av 137 and 79 av 196 at \$3.25.

Fierstine sold same 45 av 223 at \$3.22½.

McLaren sold same 39 av 196 at \$3.25 and 56 av 167 at \$3.22½.

Kalahan sold same 124 av 201 and 28 av 211 at \$3.22½.

Lamaroux sold same 40 av 155 at \$3.22½.

Spicer & M sold same 44 av 180 at \$3.22½.

Weeks sold same 66 av 165 and 71 av 190 at \$3.22½.

Belhimer sold same 134 av 214 and 31 av 181 at \$3.22½.

Meyer sold same 28 av 159 at \$3.25.

Reason sold same 77 av 105 and 88 av 197 at \$3.22½.

Sharp sold same 144 av 181 and 58 av 197 at \$3.22½.

Stephens sold same 146 av 163 at \$3.20.

Bauer sold same 10 av 192 at \$3.20.

Clark sold same 148 av 186 at \$3.22½.

Haller sold same 103 av 174 and 80 av 191 at \$3.25.

Miller Bros sold same 89 av 188 at \$3.22½.

Kelsey sold same 129 av 224 at \$3.22½.

Discher sold Parker, Webb & Co 56 av 196 at \$3.20.

Howe sold same 98 av 187 at \$3.25.

Coates sold same 80 av 202 at \$3.22½.

Thelison sold same 67 av 182 at \$3.23.

Laughlin sold same 140 av 190 at \$3.25.

Talmage sold same 69 av 177 at \$3.23.

Ackley sold same 63 av 224 at \$3.25.

Wilson sold same 82 av 159 at \$3.22½.

Stevens sold same 65 av 199 at \$3.22½.

Fakes sold same 28 av 232 at \$3.22½.

Burden sold Parker, Webb & Co 102 av 114 at \$3.22½.

Taggart sold same 173 av 175 at \$3.25.

Henderson sold same 72 av 188 at \$3.25.

Kalahan sold same 92 av 186 at \$3.25.

Burden sold same 98 av 178 at \$3.22½.

Lingeman sold same 81 av 192 at \$3.22½.

Shook sold same 75 av 184 at \$3.20.

Roe & Holmes sold same 102 av 121 at \$3.22½.

Lomason sold same 118 av 183 and 49 av 204 at \$3.22½.

Parks sold Sullivan 84 av 138 at \$3.20.

Hawley sold same 54 av 121 at \$3.25.

Bergen sold same 52 av 101 at \$3.20.

Friday, December 2, 1898.

CATTLE.

Receipts Friday, 325, as compared with 142 one week ago. Market active and unchanged. \$4.35 was top price to-day for good butcher steers and heifers av 1170 lbs, and \$4.00 for 72 do (Westerns) av 915 lbs, balance as noted. Veal calves and milch cows unchanged.

Talmage sold Caplis & Co 3 cows av 903 at \$2.50 and 4 mixed butchers av 680 at \$3.45.

Bullen sold Mich Beef Co 12 mixed butchers av 882 at \$3.85 and a cow weighing 1020 at \$2.25.

Fox & Bishop sold Magee 7 mixed butchers av 657 at \$3.40, 7 cows to Black av 1042 at \$2.75, and 3 steers to Sullivan av 660 at \$3.50.

Carman sold Fitzpatrick a steer weighing 870 at \$3.80, 2 bulls to Regan av 500 at \$2.75 and 8 mixed butchers av 675 at \$3.40, also 15 mixed butchers to Kammen av 930 at \$2.75.

F W Horner sold Mich Beef Co 2 cows av 960 at \$2.75, 5 mixed butchers av 916 at \$3.25 and 10 steers and heifers av 789 at \$3.65.

Sullivan & Fleishman sold Mich Beef Co 26 steers and heifers av 922 at \$4.00, 26 do av 917 at \$4.00 and 22 do to Cook av 904 at \$4.00, all Westerns.

Kline sold Mich Beef Co 2 mixed av 710 at \$3.65 and a heifer weighing 910 at \$4.00.

Robb sold Caplis & Co 3 bulls av 1160 at \$3.00 and 2 cows av 925 at \$3.00.

Kline sold Mich Beef Co 6 mixed butchers av 706 at \$3.50, 5 do av 662 at \$3.50 and a steer weighing 920 at \$4.00.

White sold Sullivan 9 feeders av 825 at \$3.80, 5 stockers av 685 at \$3.80 and 4 cows av 957 at \$3.00.

Spicer & M sold Mason & F 2 steers av 605 at \$3.50, 2 canners av 790 at \$2.10 and 5 mixed stockers to Sullivan av 518 at \$2.25.

Sutton sold Mason & F 4 stockers av 497 at \$3.50.

Parsons & H sold Sullivan 3 bulls av 1,063 at \$3.30, 3 steers av 820 at \$3.60 and 2 mixed av 765 at \$3.00, 5 mixed butchers to Fitzpatrick av 556 at \$3.00 and 6 heifers av 766 at \$3.50, also a fat heifer to Caplis & Co weighing 1170 at \$3.35.

Roe & Holmes sold Black 4 cows av 1162 at \$3.40, 3 heifers to Parke, Davis & Co av 546 at \$3.15, 4 steers and heifers to Robinson av 880 at \$4.00 and 5 mixed butchers av 820 at \$3.25, 3 mixed butchers to Gerow av 770 at \$3.25, a bull weighing 1290 at \$3.25, also a bull to Mich Beef Co weighing 1050 at \$3.00.

SHEEP AND LAMBS.

Receipts Friday, 646; one week ago, 305. Quality not very good. Market fairly active and unchanged from prices paid yesterday.

Spicer & Merrill sold Shelton 46 lambs av 78, 27 do av 66 at \$4.75; 5 sheep av 120 at \$3 and 5 do av 134 at \$3.75.

Roberts & Spencer sold Mich Beef Co 42 sheep and lambs av 70 at \$4, 40 mixed av 79 at \$3.25 and 27 culls av 80 at \$2.

Pline sold Mich Beef Co 105 lambs av 75 at \$4.80.

Reason & Dunlavy sold Robinson 41 mixed av 71 at \$2.75.

Haley sold Caplis & Co 16 lambs av 76 at \$4.65.

Hyne sold Harger 24 mixed av 90 at \$3 and 20 yearlings av 82 at \$4.

Sweet sold Monaghan 54 lambs av 68 at \$4.50.

Glen sold Mich Beef Co 35 mixed av 68 at \$2.50.

HOGS.

Receipts Friday, 7,756, as compared with 1,738 one week ago. Market active, but prices averaged 2½¢ lower than above quotations. Bulk changed hands at \$3.22½.

Coates sold Parker, Webb & Co 89 av 118 and 79 av 171 at \$3.22½.

Frazel sold same 74 av 197 and 89 av 152 at \$3.25.

Miller sold same 11 av 198 at \$3.25.

Hyne sold same 49 av 175 at \$3.22½.

McDonald sold same 14 av 175 at \$3.20.

Russell sold same 11 av 175 at \$3.22½.

Graves sold same 11 av 228 at \$3.22½.

Jedele sold same 133 av 190 at \$3.22½.

Sutton sold same 161 av 173 and 22 av 180 at \$3.22½.

Parsons & H sold same 130 av 184 and 147 av 181 at \$3.22½.

Hertler sold same 113 av 192 at \$3.22½.

Spicer & M sold same 42 av 171, 163 av 168, 81 av 173 and 147 av 193 at \$3.22½.

Downer sold same 133 av 185 at \$3.20.

Brown sold same 118 av 147 at \$3.20.

Roe & Holmes sold same 72 av 189 and 111 av 186 at \$3.22½.

W. W. Loosmore sold same 77 av 180 at \$3.20.

Davis sold Hammond, S & Co 21 av 200 at \$3.22½.

Ford sold same 8 av 236 at \$3.22½.

Heeney sold same 49 av 188 at \$3.22½.

Brand sold same 116 av 190 at \$3.25.

Smith sold same 69 av 193 at \$3.22½.

McClaghy sold same 68 av 201 at \$3.25.

Luckie sold same 76 av 204 at \$3.25.

Reason sold same 46 av 176 at \$3.20.

Allen sold same 67 av 203 at \$3.25.

Stecker sold same 156 av 182 at \$3.22½.

Bullen sold same 58 av 172 at \$3.20.

Green sold same 90 av 177 at \$3.22½.

Ramsay sold same 64 av 242 at \$3.22½.

Roberts & Spencer sold same 147 av 168 at \$3.17½.

F. W. Horner sold same 140 av 185 and 136 av 198 at \$3.22½.

Luckie sold Sullivan 177 av 182 at \$3.22½.

Allen sold same 73 av 119 at \$3.20.

Roe & Holmes sold same 19 av 123, 116 av 126, 61 av 99, 30 av 129 and 25 av 131 at \$3.22½.

Green sold same 58 av 127 at \$3.22½.

Ramsay sold same 40 av 131 at \$3.20.

OUR BUFFALO LETTER.

East Buffalo, December 1, 1898.

Cattle.—Receipts of cattle on Monday last were 4,598, as compared with 4,908 the same day last week. Shipments were 3,606 as compared with 3,542 the previous week. With light receipts, and a good demand for desirable cattle, we note an advance of 10¢/15¢ per hundred on choice heavy steers and smooth well-finished handy weights. Medium grades showed little change, while common to good light ruled steady to strong. Bulls were in good demand, and anything fair in quality ruled firm. Oxen were scarce and firm for desirable stock and steady for common. Stockers and feeders were in light supply, but prices were again lower. Prime export steers sold at \$5.25 to \$5.50; lighter weights, \$5.00 to \$5.15; good to choice steers, \$4.75 to \$5.00; best butchers' steers, \$4.50 to \$4.75; good to choice, \$4.25 to \$4.45; common thin to half fat steers, \$3.90 to \$4.15; heifers, \$3.40 to \$4.60; cows, \$2.10 to \$4.10; bulls, \$2.75 to \$4.10; oxen, \$2.50 to \$4.50; stockers and feeders, \$3.00 to \$4.15. Tuesday but few cattle arrived, and those on hand sold at about Monday's prices or a shade lower. Wednesday receipts were again light, and the market ruled quiet but steady at unchanged prices. Quotations at the close were as follows: Export and Shipping Steers.—Prime to extra choice finished steers, 1,400 to 1,450 lbs, \$5.25 to \$5.50; prime to choice steers, 1,300 to 1,400 lbs, \$5.10 to \$5.15; good to choice fat steers, 1,250 to 1,300 lbs, \$4.85 to \$5.00; good to choice fat smooth steers, 1,050 to 1,200 lbs, \$4.40 to \$4.75; green coarse and rough fat steers, 1,050 to 1,400 lbs, \$4.10 to \$4.50. Butchers' Native Cattle.—Fat smooth dry fed steers, 1,050 to 1,150 lbs, \$4.50 to \$4.75; fat smooth dry fed light steers, 900 to 1,000 lbs, \$4.30 to \$4.45; light to fair dry-fed steers, \$4.10 to \$4.30; green steers, thin to half, fattened to 1,000 to 1,300 lbs, \$4.00 to \$4.25; fair to good steers, 900 to 1,000 lbs, \$3.90 to \$4.15; choice smooth fat heifers, \$4.35 to \$4.60; fair to good fat heifers, \$3.50 to \$4.25; light, thin, half-fat heifers, \$3.40 to \$3.75; mixed lots, fair to choice quality fat cows and heifers, \$3.25 to \$3.65; choice to extra smooth, well fattened butcher cows, \$3.50 to \$4.00; fair to good butcher cows, \$2.75 to \$3.40; common old shelly cows, \$2.10 to \$2.60. Bulls and Oxen.—Export weight bulls, fat and smooth, \$3.85 to \$4.10; good fat smooth handy weight butcher bulls, \$3.50 to \$3.75; fair to good sausage bulls, \$2.85 to \$3.40; stock bulls, common to extra, \$2.75 to \$3.25; fat, smooth, young oxen to good lots fit for export, \$4.25 to \$4.50; fair to fairly good partly fattened young oxen, \$3.75 to \$4.00; old common and poor oxen, \$2.50 to \$3.50. Native Stockers and Feeders.—Feeding steers, good style weight and extra quality, \$3.75 to \$4.15; feeding steers, common to only fair, \$3.40 to \$3.65; good quality yearling stock steers and calves, \$3.75 to \$4.15; stock heifers, common to choice, \$2.75 to \$3.50; stock steers, cull grades and throw outs, \$2.00 to \$3.00.

Thursday the market was quiet, steady and unchanged.

Sheep.—Receipts of sheep and lambs on Monday last were 16,600, as compared with 13,000 the previous week. Shipments were 10,000, as compared with 8,600 the previous week. Receipts were somewhat heavier than last week, but not enough to affect values. The market opened fairly steady on lambs with prices about the same as on Saturday. Sheep were only steady on the best grades, but a shade lower on common to fair lots. Choice to extra ewe and wether lambs sold at \$5.65 to \$5.75; culls to choice, \$4.50 to \$5.00; fancy wether sheep and choice yearlings, \$4.40 to \$4.75; fair to extra mixed sheep, \$3.75 to \$4.25; culls, \$1.50 to \$2.75. Tuesday, with only fair receipts, the market ruled very dull, and values were weaker. Native lambs, choice to extra ewes and wethers, sold at \$5.55 to \$5.65; fair to good, \$5.25 to \$5.50; culls and common, \$4.50 to \$5.00; common to choice yearlings, \$4.25 to \$4.60; \$4.40 to \$4.50; fair to choice mixed sheep, \$3.75 to \$4.25; good to choice fat ewes, \$4.00 to \$4.25; culls and common ewe sheep, \$1.75 to \$3.25. Wednesday receipts were only fair, but with a number held over from the previous day values ruled weak and lower for lambs. Quotations closed at the following range: Native lambs, choice to extra ewes and wethers, \$5.35 to \$5.60; fair to good, \$5.10 to \$5.25; culls and common, \$4.65 to \$5.00; common to choice yearlings, \$4.25 to \$4.60; \$4.40 to \$4.50; fair to choice mixed sheep, \$3.75 to \$4.25; good to choice fat ewes, \$4.00 to \$4.25; culls and common ewe sheep, \$1.75 to \$3.25; Canada lambs, good to choice ewes and wethers, \$5.20 to \$5.25; good to choice, part bucks, \$5.05 to \$5.15; buckey and heavy lots, \$4.75 to \$5.00.

Thursday the market was dull and shade lower; best lambs, \$5.25 to \$5.35; bulk, \$5.20 to \$5.30;

Miscellaneous.

THE CHILDREN OF EARTH.

Down by the sea on a summer day
I doze and dream while the children play,
Glee-fraught heaping their hills of sand,
Calling them palaces high and grand.
A clamshell serves for the great front door.

And the walk is a bit of a broken oar,
While plate and platter and bowl and cup
Are polished pebbles the sea brings up.

And king and queen in their royal state
Pass in and out through a seaweed gate;
And lord and lady ride to and fro,
Till a far voice calls, "It is time to go."
To gems and jewels and palaces tall
They bid farewell, and they leave them
all;

While the tide comes laughingly up the
bay,
And the sand-made palace is washed
away.

Deep in the city I see the men
Playing the childish games again;
Building a palace of brick and stone,
And playfully calling it all their own.
The walls are laid with the cares of
wealth.

And the roof is patched with their broken
health;
And plate and platter and bowl and cup
Are polished trinkets their toll brings up.

And king and queen in their royal state
Pass in and out through a golden gate;
And lord and lady ride to and fro
Till a far voice calls, "It is time to go."
From gems and jewels and palace tall
They turn away, and they leave them all;
And time looks on through a thousand
years
And the man-made palace—it disappears.
—L. A. W. Bulletin.

THE LOVER'S QUEST.

BY ERNEST GLANVILLE,

Author of "The Lost Heiress," "The Fossicker,"
"A Fair Colonelist," "The Golden Rock," &c.

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(CONTINUED)

"Oh, but it gives them courage, and
it is their way."

"They must stop it, then. It is folly;
for such wild shooting encourages the
enemy."

"It shall be seen to, friend. Now
here is the outpost. I will mount to
the summit, and be you ready to fire
when a man shows himself. It does
my heart good to see such shooting.
It is better than firing at a mark, such
as that in the valley, eh?"

As the chief climbed up, Miles
looked around, and in the shadows
saw the gleaming eyes of the sentinels,
who had taken shelter so well in the
crevices, and were so silent that their
dim outlines at first startled him. Then
he climbed up also, and looked around
over the wide valley far down to the
kopje, where he and the others had
taken shelter the day before.

"Yonder," said the Arab, pointing to
the right, "in that wood, are the mass
of the enemy."

Miles caught the flash of a gun in
the skirts of the wood, and a second
later a bullet cracked against the rock,
a splinter of lead stinging him on the
neck with such force as to draw the
blood.

"Can you see the man?" said the
Arab, coolly. "Such a shot was fired
by no Kaffir."

"Come down," said Miles, gruffly.
"There is nothing to be gained by ex-
posing yourself."

"My friend, I do this thing not out
of bravado, but to encourage the men."

He stood with his bronzed arms
crossed over his breast, and his keen,
fierce eyes scanning the country round
—a fine and martial figure; and Miles
presently stood beside him, thinking
it unfitting that he should hide while
the other exposed himself. From the
far woods little puffs of smoke rolled
out and floated up, and bullets struck
against the rock or whizzed over their
heads, so close that Miles involuntarily
ducked his head, and then bit his
lip because the Arab had not done the
same.

"See," said the latter, "we command
here the neck of the valley. If the en-
emy attack they must come across the
open country. What I think is this.
They will leave a way open for us to
retreat to the river. Those men on
the left, whose lines you came through,
will be withdrawn, or perhaps sent on
miles ahead to ambush us. If we,
finding the way open, were to retreat,
they would take possession of this
place and then pursue us. Is that not
so?"

"It is a simple strategy."

"Well, they know we cannot hold
out here for long. They must think
we will retreat when we are getting
strong, and in possession of food.
They will prepare an ambush ahead.
What plan would you carry out?"

"I am not a soldier, chief. If there

is a good plan, you have already
thought it out."

The Arab showed his teeth in a
smile.

"Yes, I have a plan, and that son of
a dog will find that he is not playing
with a child."

Miles had caught the flutter of a
white garment about five hundred
yards away, and his eyes had been
fixed on the place. Now he saw,
some distance to the right, and a little
nearer, a crouching figure, creeping
towards an ant-hill from the shelter
of a bush.

"Chief," he said, "what became of
that man who attempted my life?"

"Abdol. He left before Stoffel, to
spy; and it has been in my mind that
he was treacherously slain."

"He is alive, and a traitor to you."
The Arab's brow contracted, and his
eyes gleamed as he turned.

"He was with the band who at-
tacked us, and from whom the girl
escaped."

"Say you so? But how could that
be? The man went on my service.
But then—Ah, I see, he was taking
this girl to the river by Stoffel's or-
ders."

"No doubt."

"It was she of whose beauty he
spoke. Nay, look not so black. She is
safe. I have said it. But Abdol, he
was the only man of my race left.
The others died in the attack on this
house, as they went in advance. And
he a traitor, who ate at my board!"

"Yet he had some cause to hate you,
and, if I mistake not, he is now try-
ing for your life."

"What! Where?"

"There," pointing, "behind that ant-
hill in line with the bare tree." As
Miles pointed there was a puff of
smoke above the hill, and a bullet
struck the ground before them.

"Get you down," said the Arab, "and
when he fires again I will stagger as
if hit, and when the dog appears shoot
him."

Miles knelt down behind a spur of
rock, and put up the sight to forty
hundred yards covering the ant-hill,
and waiting with beating heart for the
shot.

It came. The chief gave a short cry,
and reeled. A savage yell that came
from the watching Angoni thrilled the
waiting marksman. It reached the
impli in the woods, and was answered
by a louder cry, while the man who
had fired clambered to the summit of
the ant-hill and frantically waved his
arms.

In the midst of his exultation a sharp
rifle shot rang out, and he fell face
foremost to the ground, where he lay
prone, a speck of white that presently
moved and crawled slowly away.

The chief sprang to the rock, and
again the wild exulting yell of the An-
goni rolled across the valley. Then he
came down and seized Miles by the
hand, and so grasping him led him
back to the wall, the enemy letting
them cross the open space without fir-
ing a shot.

"You are hit," said Miles, feeling the
hand turn clammy.

"A spent ball," said the chief. "It
struck the ground twice, and bruised
my shoulder. But what of it? For such
a reward I would stand there all day.
It is as though we had now a victory.
With such captains as you and I, these
men will do anything."

As they entered the yard, the war-
riors greeted them with a tremendous
shout, and some went before them
dancing.

"There now, I will see to my wound,
and until the evening star you will be
captain. My friend, I can sleep now
in comfort."

"Tell me first how the lady is."

In a few moments the chief returned
to Miles with the assurance that she
was still sleeping.

CHAPTER XXIII.

When Miles took command he first
made a thorough inspection of the
arms, and it was well that he did so;
for many of the rifles were very foul,
and fully a score of the men carried
mixed cartridges in their roughly-made
bandoliers. The morning went quick-
ly while he saw to the righting of these
matters, then it struck him that he had
not seen Hans, and searched for that
worthy, finally finding him in a shed,
curled up in a litter of dry grass, and
hopelessly drunk. There was an empty
bottle beside him, and one half-filled
in his hand. This Miles threw over
the wall, and after emptying a bucket
of water over the old hunter to bring
him to his senses, he made a careful
examination of the wall inside and out,
then, with some coils of galvanized

fencing wire found in the shed, he set
to work with a party of the men,
stretching the wires about a foot from
the ground all round the wall, at a dis-
tance from it of about twenty yards.
There was wire enough to make a dou-
ble coil with an interval between each
strand of six feet. The work was not
carried out without risk, for the en-
emy's scouts kept up a dropping fire,
but at too long a range to do much
damage, though one man was wounded
slightly. The Angoni, however, worked
willingly, though for some time they
could not in the least understand what
the little fence was intended for, and
kept up a continual fire of chaff with
their comrades inside the wall.

At last, when the first coil was laid
an induna, a fine active man, with a
lofty war plume of black feathers,
suddenly clapped his hand to his
mouth, then running off a few yards
charged towards the wall, pretended
to catch his foot in the wire, and fell
headlong. Then the others caught the
idea, and all talked excitedly together,
whilst several others went through the
pantomime of charging and falling;
whereupon some inside the yard leapt
the wall, and rushing on the prostrate
figures made as if they would stab
them. Having mastered the meaning
of the little fence, they were immen-
sely pleased, and behaved like a troop
of holiday lads, with an undercurrent
of ferocity gleaming from their black
eyes, and shown in the carriage of
their heads and in their spreading nos-
trils. Miles regarded them with a
mingled feeling of repulsion and fasci-
nation. They possessed an undoubt-
ed beauty of form, their movements
had all the freedom and smoothness of
a panther, and their animation of ges-
ture and speed was extraordinary. All
this was attractive. But on their fea-
tures there was the stamp of an un-
tameable wildness. Some of them, in ad-
dition to their rifles and assegais, car-
ried a small feathered arrow-like spear,
which in their excitement they would
poise and hurl quivering an incredible
distance.

Disturbed by the noise, the Arab
chief came out late in the afternoon, as
the last pegs were being driven in to
hold the inner wire. At a glance he
took in the meaning of the precaution
against a sudden rush of the enemy,
and thanked Miles.

"There is another thing I would like
to do, chief, if you can let me have a
supply of powder."

"What is it you will do?"

"Lay a train to that pile of rocks
above the house where we stood this
morning, so that if the enemy took pos-
session we could blow them up."

"Mashallah! That is a good thought.
Let us examine the stores."

All the men were withdrawn inside
the walls, and the chief led the way
into a cellar below the house under-
mined out of the rocks. Here, by the
light of a lantern, they saw a pile of
stores, and in a box Miles, with a cry
of satisfaction, found three charges
of dynamite with fuse and caps com-
plete. There was, too, a miner's outfit,
and, armed with revolvers, they went
up to the rocks. Here, Miles, baring his
arms, set to work long into the even-
ing, piercing holes for the cartridges,
while the chief and a brawny warrior
followed suit on two other rocks. It
was after dark when they finished.
The cartridges were inserted, blocked
with mud, the fuses united, and the re-
maining length of fuse carried down
towards the wall, where a pit was
made for a man to lie in waiting.

As soon as the darkness fell the long
line of the enemy's camp fires shone
out in a semi-circle on the left front,
but at the suggestion of Miles, every
light in the house and yard was put
out, while scouts were thrown out on
each side. Food was served out, and
a reserve of ammunition got in readi-
ness, while one hundred of the men
were set to work, some with picks,
some with spades, some hauling out
boxes and lumber, to build an inner
wall against the stoop of the house,
making an inner fort.

One of the scouts came in with the
report that the enemy was making no
preparations, and the majority of the
men rolled themselves in their keross-
es. Hans, recovered from his debauch,
now came on the scene, after foraging
in the kitchen, in a very humble frame
of mind.

"This won't do, Hans. If we had
been attacked this afternoon you would
have been useless, and every man must
be at his post."

"Yah, haas. The ole Hottentot smell
the brandy, but now he is all right. He
will smell the Kaffirs; he will fight. Do
they come?"

"We are ready for them, Hans. But
the scout says they are not moving."

"Soh! Wait a bit. I will go. These
Kaffirs no good."

(Continued on page 432.)

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"What do you say, chief? Will you let this man scout?"

"Can I trust him," said the chief, darkly.

"I will stand surety for him."

"Go, then."

"Ja. But wait. You must build fires. The people will know you watch when there are no lights. Let your men talk about the fires, else they will come in the early morning when sleep is heavy on you."

The old hunter slipped out, and the men gathered about the fires, for there seemed some reason in Hans' suggestion, while the two leaders sat smoking and listening. Miles presently fell asleep, for the good food made him feel heavy, but was awakened by the melancholy wail of a jackal. A few minutes later, as he dozed, there came another cry, and another, as though a pack were in full hunt, and the wild, plaintive cry of the dik-kop plover followed.

"There are men afoot," said the chief, and he called to the warriors to stand to their arms.

For an hour there was no other sound, and the warriors, unequal to the strain of constant watchfulness, were seeking their mats again, when there was a movement by the gate, and a scout came up with the report that a body of the enemy was marching across the valley from the west side of the main body among the thorns. Other scouts came in with the same report.

"Does this mean that they will not attack, or that they will advance altogether?"

"I should think they will not attack until morning," said Miles. "Is that you, Hans?"

"Ja, sieur."

"Well?"

"The Kaffirs go to the bush."

"We have heard that," said the chief.

"Soh! The chief knows when they will come?"

"No."

"Well, they will be here soon."

"Are you sure?"

"Oh, yes. First they will come on one side, then the other; all ways. So you will drive them off. They will run quick, but when they have gone and you are merry, because of the fight, swash! in the dark, without noise, like a river that is fed by the rains, they will come swiftly upon you. Many, Al-levereh! ja, many as locusts."

"How do you know this?"

"I went near in the woods, and heard talk. They already have eaten you up, and the witch-men were there fitting the men for the fight. I saw Stoffel—the duivel."

"I see," said the Arab to Miles. "They will make a feint, and then deliver the real attack when they think us off guard. By the prophet's beard, we will surprise them. The men from the outpost must be called in. Let them think it is undefended, and the bulk of them will gather there for the shelter. Who will you get to fire the charge?"

"I think Hans will do."

"Yes, and if he does it well, a horn of gold-dust is his. I will see that only half the men are engaged resisting the first attack, and that they keep up but a weak fire."

Miles went out, brought in the ten men from the rocks, and, after instructing Hans what to do, left him in his dangerous position, with his weapon by his side.

"I will be by the wall," said Miles, "and when you fire the charge run straight back where I show something white."

No sooner had he got inside than there was a wild yell, followed by a volley. This was repeated almost simultaneously from every quarter, and the bullets whizzed overhead or rang against the stones, while a shower of dust and fragments from the thatched roof fell like hail.

Under this attack the Angoni could scarcely be restrained. They shouted defiantly, and the reserve line, seated with their backs to the wall, could not contain themselves. They leapt to their feet, striking on their shields.

"Be quiet, my children," cried the chief, going up and down. "You will frighten them. Let them come nearer, so that we may see them."

The enemy would not come nearer. They yelled and whistled, making rushes as if they would come on, then withdrawing. Then some of them began to cry out that it was useless fighting against rocks, and the Angoni shouted triumphantly.

Then the chief called up two indunas, and let them go among the men and tell them to be ready, for this was but a pretense, and to counsel them,

nevertheless, while they stood on guard, to shout as if rejoicing at a victory.

There was another pretended rush, another wild volley, met by a sharp return, and then the enemy retired, their voices lessening, while the fires were lit, and a few men chanted the song of victory.

"Be ready now, cubs of the lion," said the chief, warningly, "and let every man be careful how he shoots. Keep your guns low. Better aim at the ground than the sky."

A man was sent over the wall, the same fine-looking induna that Miles had admired, and in less than five minutes he leapt lightly over the wall, and, raising high his assegai, reported that the impi was coming. In the dark his eyes gleamed like an animal's, and, as he went down the wall, seeing that every man had his place, there followed him a deep hoarse murmur.

"By Allah," muttered the chief, "these men are good—they scent blood. Hark!"

(To be continued)

THE STORIES THEY ARE TELLING.

A Maine man who recently experienced religion now goes about the state preaching for reformation of sinners, and the other day he was announced to deliver a sermon in a schoolhouse in the town of Wayne, the home of the gunmaking Maxims. When he got to the schoolhouse there was only one man in the building. After waiting a while for the crowd to appear the evangelist declared to the audience of one that he should go on and preach just the same as if the room were crowded. So he did preach for about an hour and a half, and at the close he asked the lone listener to lead in prayer. The man looked puzzled, and then, fishing out a little slate, wrote: "I am deaf and dumb and haven't heard a word you said."

A story concerning our troops in Manila is told by an English naval officer, who was an eye-witness of the occurrence. "The city was quite crowded," he says, "with American and Spanish soldiers, and they seemed to be on the friendliest terms. As I was crossing one of the numerous bridges across the Pasig river I saw a native Filipino spit in the face of a Spanish officer and then run to the American sentinel, who was guarding the bridge, demanding his protection. It was some time before the Filipino could make himself understood, and the sentry took some time to catch on to what had been done, but you can imagine my surprise when he handed his gun to the Spanish officer and caught the native by the nape of the neck and the seat of his trousers and pitched him off the bridge into the Pasig river. Then he calmly took his gun from the Spanish officer and began pacing the beat as if nothing had happened. The American soldier may not be so military as his brother of Europe, but he is made of the right stuff."

Blizzard Bill went up to the new parson's house with an unpleasant errand in view. He meant to run him out of town.

Three hours later he met Ginger Joe. Ginger looked him over.

"Grizzily or dynamite?" he softly inquired.

Bill looked at Ginger through his half-shut eyes.

"You're a derved pretty sort o' friend, you are," he hoarsely growled.

"Why in merry thunder didn't you tell me the parson was an army chaplain?"

"It's wonderful," said the credulous man, "simply marvellous!"

"Have you been to see that fortune-teller again?"

"Yes."

"Don't you think most of those people are animated by purely mercenary motives?"

"This one isn't. Just think of his being willing to go on telling fortunes at a dollar apiece when he could give himself a tip on a horse race or a lottery drawing and get everlastingly rich inside of twenty-four hours."

At a recent meeting of a London burial board (says a correspondent), it was suggested by a member that in acknowledgment of the zealous services of the superintendent of the cemetery, who was described as being so hard-worked that he had not a minute to himself, he should be granted an extra honorarium. "Better," said an-

other, "give him a sum of money, as, if he is so hard-worked, what time will he have to play a honorarium?"

"Lady," said a Scotch servant to her mistress, "I maun tell ye I am to leave your services and be marrit."

"Is this not very sudden, Mary?" inquired the lady; "who is the person you expect to marry?"

"It is John Scott, mistress."

"But you have known him but a short time; how can you trust a stranger?" persisted the woman, reluctant to part with a good servant.

"Yes, 'tis true; but he's ken himself many years, and he says he's all right, and I believe he is, for I asked him, 'did he ken the Ten Commandments?' and he gave them ivery one. I asked him could he say the shorter catechism, and he had it every word; then I told him to grip his hands quick and hard, and then, lady, I saw he was a strong man, and I'm going to gie him my hand."—San Francisco Argonaut.

Sunday-school Teacher—"Now, Tommy, who was the strongest man?"

Tommy—"Samson."

"That's right. And who was the wisest man, Johnny?"

"Noah."

"Why, how do you make that out?"

"Cause he was the only feller that knowed enough to go in when it rained."—Chicago Record.


"One day," says the Chicago Record, "a little son of the Rev. T. V. Gardiner was playing with some boys who had a cart, and they wanted a dog to draw it. 'Papa says we must pray for what we want,' said the minister's son, and he knelt down and said, 'Oh, Lord, send us a dog to draw our cart.' In a little while a big one came along that frightened them, and they began to cry. A second time the boy knelt, but this time he prayed, 'Oh, Lord, we don't want a bulldog.'"

COULD NOT SLEEP.

Mrs. Pinkham Relieved Her of All Her Troubles.

Mrs. MADGE BABCOCK, 176 Second St., Grand Rapids, Mich., had ovarian trouble with its attendant aches and pains, now she is well. Here are her own words: "Your Vegetable Compound has made me feel like a new person. Before I began taking it I was all run down, felt tired and sleepy most of the time, had pains in my back and side, and such terrible headaches all the time, and could not sleep well nights. I also had ovarian trouble. Through the advice of a friend I began the use of Lydia E. Pinkham's Vegetable Compound, and since taking it all troubles have gone. My monthly sickness used to be so painful, but have not had the slightest pain since taking your medicine. I cannot praise your Vegetable Compound too much. My husband and friends see such a change in me. I look so much better and have some color in my face."

Mrs. Pinkham invites women who are ill to write to her at Lynn, Mass., for advice, which is freely offered.



OUR WATCHES.

20 Year.



18559

WE HANDLE ONLY THE BEST.

The Boss cases, the genuine Elgin and American Waltham movements are THE BEST, while the cheap Elgin-made movement is the very best low-priced movement made.

We Have Variety Enough, Both in Cases and Movements,—

Gents' Hunting, Ladies' Hunting, Gents' Open-faced; any in 20 and 10-year cases, with the Boss silveroid.

Our movements are from 7 to 21 jeweled. The gents' hunting and open-faced cases are 18 size. The silveroid is also 18 size, weighs 3 ounces, has heavy beveled glass front, and in appearance is the same as carried by locomotive engineers. Both the \$4.50 and the \$3.60 watches are big bargains. The ladies' hunting are 6 size, and are beauties.

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All watches are fitted with safety pinions and are stem wind and stem set.

MOVEMENTS. Elgin or Waltham.	JAS. BOSS GOLD-FILLED CASES, GUARANTEED.				Silveroid, open faced.
	Gents' Hunting.	Gents' open face.	Ladies' 6 size.		
7 Jeweled cut expansion balance nickel, breg. hair spring.....	30 yr. 10 yr.	20 yr. 10 yr.	20 yr. 10 yr.		
	\$11.00 \$ 8.00	\$ 9.00 \$ 6.00	\$10.00 \$ 7.00		\$ 4.50
15 Jewel nickel pat. reg. breg. hair spr. expansion cut balance.....	15.00 12.00	13.00 10.00	14.00 11.00		8.50
Same in 17 jewels adjusted.....	17.00 14.00	15.00 12.00		10.50
21 Ruby jewel adjusted to temperature and all positions. Six pr gold settings.....	30.00 27.00	28.00 25.00		23.50
7 Jeweled Elgin-made.....		3.60

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Grange Department.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

Address all correspondence for this department to

KENTON L. BUTTERFIELD,
AGRICULTURAL COLLEGE, - - MICH.

News from Michigan Granges is especially solicited.

GRANGE CALENDAR.

Huron Co. Pomona, with Verona Mills Grange, December 22.

THE STATE GRANGE.

Do not forget that State Grange convenes in Lansing, Tuesday morning, December 13. The rates which have been secured at the various hotels will be found in another column. The Hudson House will provide ladies' parlor and has been chosen as headquarters of the Executive Committee.

The usual railroad rate of one and one-third fare has been arranged for on the certificate plan. In another column will be found further details regarding arrangements.

We want especially to urge the attendance of visiting members as this promises to be a meeting of exceptional interest. It will be an inspiration to any one to visit State Grange. It will give them a new idea of the influence and power of the Order. It will encourage them in Grange work. It will give them many pleasant acquaintances. By all means, make plans to visit the coming State Grange.

GRANGE NEWS.

POSTAL JOTTINGS.

Died at the home of her daughter, Mrs. Charles Conrad, in the town of Climax, Kalamazoo Co., Mich., Oct. 22, 1898, Sister Louvern Miller, aged 58 years. Sister Miller had been a member of Montour Grange, No. 49, for some time.—Sec.

Onsted Grange, No. 279—Lenawee Co.—conferred first and second degrees on six candidates at the last meeting; also has two applications for membership. After initiating, a good program was rendered.—F. Jennie Newton, Cor.

Elbridge Center Grange, No. 711—Oceana Co.—met November 19 with a good attendance. Our next meeting the Grange has decided shall be an open one with social and feast. A grand good time is expected.—Miles Brown, Cor.

Montcalm Grange, No. 318—Montcalm Co.—held Pomona's day November 12, in an appropriate manner, with a feast such as farmer housewives are capable of making. We had a fine display of various fruits and a special program for the day.—M. I. J.

Courtland Grange, No. 560—Kent Co.—discussed "State Government," and decided that the State Constitution does not need revising. The State has prospered under the laws as they are. November 19 we made arrangements for an oyster supper Thanksgiving night.—Mrs. Nancy Burch.

Ashland Grange, No. 545—Newaygo Co.—held its last meeting November 19th with a good attendance. We are going to celebrate the Grange anniversary December 3d in the afternoon, and initiate a candidate. We expect to have an entertainment in the near future.—Minnie A. Brink.

Huron County Pomona Grange will meet with Verona Mills Grange, on December 22, with forenoon, afternoon and evening sessions. Fifth degree will be given to 14. Will elect officers. Would like to have every Grange in the county represented.—Mrs. Geo. Pangman, Sec.

Helena Grange, No. 676—Antrim Co.—met November 19; good attendance. Bro. Tyler was given a vote of thanks for the good work he had done in getting subscriptions to The Michigan Farmer and in sending each name to the state and national agricultural departments. A committee was appointed to draft resolutions on death of S. Trotman.—Mrs. Liva McFarren, Cor.

Hopkins Grange, No. 390—Allegan Co.—has been rather broken up lately on account of bad weather, but met November 19 with quite a full attendance when arrangements were perfected for the building of horse sheds on the Grange grounds. Material is being drawn and work begun.

A new organ to replace the old one will soon be purchased, as funds for same are assured.—Mrs. H. H. H.

Madison Grange—Lenawee Co.—has been discussing the rights and duties of the various township and county officers at recent meetings, in accordance with the plans of the lecturer, Mrs. H. Harwood. Many of the ladies can tell more about our local government than the majority of voters.—E. W. A., Cor.

Boardman Valley Grange, No. 664—Kalkaska Co.—met November 23d with the usual attendance. The history of the Red Cross society was given by A. W. Carroll, and its extent, support and methods of work were given by A. E. Palmer. Several resolutions were proposed for our delegates to present at the State Grange, but no action was taken.—Ne Plus.

Hudson Center Grange, No. 713—Lenawee Co.—since last report has taken in two unaffiliated members, added two new members, and has six applications to be acted on at the next meeting. We held our fourth degree feast in the new hall at the last meeting, and although it is still unfinished we had a taste of the good times we expect to enjoy in it in the near future.—H. C. V.

Clayton Grange, No. 694—Genesee Co.—November 19th, held our regular meeting; muddy roads and a bad night but had a good Grange just the same. Our Grange came to no definite conclusion about the county salaries question. We decided that such breeds of hens as Brahmas, Plymouth Rocks and Cochins are the best fowls for close confinement, but Leghorns are best on large range. A bone mill is a good thing if used.—Geo. W. Bloss.

Alpine Grange—Kent Co.—November 12th finished a contest that has lasted for two meetings. The gentlemen are to furnish candy and peanuts for the Grange at the next meeting. Alpine Grange decided to try for the organ offered by The Michigan Farmer, but work has been so backward the attendance has been very small. At the next meeting we have for our program, Government—kinds, objects, etc., also, what improvements, if any, can be made in our national and state governments. Are talking of trying to secure a lecturer to talk on "Good Roads."—Cor.

Fruit Ridge Grange, No. 276—Lenawee Co.—had quite an enthusiastic meeting on November 19, although the Lecturer (Bro. Horton) was away at National Grange. The program was highly meritorious and well rendered, mostly by the children. A dialogue by four little girls was especially well executed. The question of the annexation of the Philippine Islands was discussed. It was the opinion that if the United States came into full possession of the islands, paid twenty million dollars to Spain and then brought the natives under subjugation that they would be more expense than profit.—J. W. A.

Rockford Grange, No. 110—Kent Co.—Held an open Grange Saturday evening, November 12, which we named a pleasant evening. This is our second. One year ago we had Mrs. Mayo for a lecture, and we followed that in a short time with a pleasant evening, and the result is we now number 54 members, whereas before we could not count more than a third of that number. At the one just held we re-instated some and received applications for some new members. We hope to be 100 strong one year from now. This one was to celebrate our twenty-fifth anniversary. The Master gave a short address, then turned the work over to the chairman of the committee on woman's work, Mrs. Moffitt. First came Mr. Norton with "Reminiscences of Grange Work," which was good. This was followed with select readings, songs, recitations, etc. Then a good social time with apples and pop corn for refreshments.—E. R. Keech, Cor.

Cascade Grange, No. 63—Kent Co.—The "Government" topic has been discussed. Objection was made to the present manner of electing United States senators. Grange favored direct election by the people. As to county officers it was suggested that we might have a board to examine all candidates for office. Those passing would be eligible to office, which would be given to the individual agreeing to do the work at the lowest figure. The secretary read an essay on "What I would do if I were a man." Would strive to live a noble and upright life, try to be something as well as do

something, save my earnings for a "rainy day," let liquor and tobacco alone, the former being the greatest curse of the day to man, vote for upright men for office, marry a wife and support the Grange. Had a fourth degree and Thanksgiving feast on November 29, with fine program. The December meetings will be: A special for conferring degrees, on the 1st, at 7:30 p. m.; on the 10th, at 1:30 p. m.; and on the 22d at 7:30 p. m., when new officers will be elected.—H. C. Denison.

KALKASKA POMONA

held its November meeting in the G. A. R. hall. Grange elected officers, instructed delegate to State Grange and talked upon various topics. Among them was the protection of second-growth timber of northern Michigan. The barren plains of northern Michigan are fast becoming covered with oak, soft maple and poplar. If the fire could be kept from burning them over, in a few years they would be a pleasant sight to behold, whereas now they look dreary.

Grange decided to have a series of Grange revival meetings conducted on a plan similar to the institutes, where the leading Grange topics will be fully discussed.

The meeting was one of pleasure and profit, a general good time with a bountiful supply of that "little morsel that keeps the farmer alive." After dinner a class of five was obligated and will be initiated at the February meeting, when the new officers will be installed.—Reporter.

NOTES FROM NATIONAL GRANGE

New England is strong in Granges, and her Granges are strong in ritualistic work. The program for Thursday and Friday of the National session bore testimony to this fact. Each of the seven degrees was conferred or exemplified by its specially prepared team. The first four degrees were exemplified Thursday evening before an audience filling Phenix hall to the utmost of its floor, gallery and standing room. The first and second degrees were given by a team from Massachusetts with such precision and perfect mastery of each part that a general feeling of despair prevailed for those who were to follow; but fear was without foundation, for Vermont sent in a team for the third degree that captivated everybody in the presentation of a harvest scene, and New Hampshire completed the long evening with the fourth in an equally skilled, though very different manner. All three teams used appropriate costumes and fancy marching figures to great advantage, yet each team had its own merits and original ideas worked out until there was really no choice as to which was best, but there was much to be emulated in each by any set of initiating officers.

The sixth degree was conferred on 400 in two classes on Thursday evening and Friday noon by the New Hampshire State Grange, and the fifth was conferred Friday morning by Merrimack County Pomona. On Friday afternoon and evening the Priests of Demeter conferred the seventh degree on 1,047 applicants in White's opera house. A year ago the National Grange appropriated \$500 for new paraphernalia and costumes for this impressive degree, so that never before has it been given with so much elaboration and beauty. Our Michigan State Master holds the office of Annalist in this Court of Demeter, and his desk, with its three to six assistants, in an outer hall is the busiest center of all during the first two days of the Grange before the degree is conferred.

On Saturday the New Hampshire Grange tendered the National party an all day's trip by rail up the state, through the White mountains, by way of Crawford Notch, as far as Bartlett and return. At noon a refreshing lunch was served in our cars. At the terminus a stop of forty minutes gave some of us opportunity to brave, under cover of umbrellas, a fence, stream and swale in order to pull up ground pine, ferns and diminutive specimens of New Hampshire spruce and cedar, which we firmly resolved to bring home, fondly fancying them luxuriating in our soils, but which we pretty generally left planted in hotel rooms or baggage depots because of superabundance of baggage.

We passed the huge Fabayn hotel, now closed for winter, but could picture the beauty of those heights about it when in summer garb. Mt. Wash-

ington is seen above all under clear skies, but, alas for us, the clouds dropped rain every moment of the day, and only one fleeting glimpse of the old heroic summit did we catch. However, what the day missed in sight-seeing was made up in sociability among the large numbers of the party.

Sunday afternoon a memorial service was held for the members of the National Grange who have passed away during the year. In the evening the members attended, almost as in a body, services at the Universalist church, where our Sister Olivia C. Woodman delivered an address in her own infinitely earnest way.

The final three days of the session were filled with the routine work of the Grange, the careful weighing of the many important questions that naturally come before it and the consideration of how best to advance the interests and conserve the force of the Order at large. Brother Brigham, Past Master, arrived on Monday to the pleasure of all. On that evening a grand reception and banquet were given by the Concord Commercial Club at the Eagle hotel.

In every way the people of Concord strove to show their hospitality, while the State Grange, with its Worthy Master, Brother Bachelder, its Lecturer, Brother Metcalf, and its Secretary, Brother Hutchinson, in the lead of 22,000 zealous Patrons, seemed collectively and individually to vie in untiring attentiveness. We began to suspect that often quoted "Western Hospitality" had cast her laurels on some east-blowing wind; or, better than that I think, we agree with him who says, "Hospitality I have found as universal as the face of man."

Grange closed Wednesday and delegates rapidly separated, for the next day was New England's distinctive holiday. Great were the preparations for its keeping and the day was strictly observed as a day of rest from usual labors. Those of us who could, tarried long enough to celebrate Thanksgiving day in the atmosphere that gave it birth and then sped homeward.

JENNIE BUELL.

STATE GRANGE.

In accord with Article V., State Grange by-laws, Michigan State Grange will convene in twenty-sixth annual session in Representative Hall, Lansing, on Tuesday, December 13, 1898, at 10 a. m. A public joint session of the Grange and State Association of Farmers' Clubs will be held Wednesday evening, December 14.

G. B. HORTON, Master.
JENNIE BUELL, Secretary.

RATES FOR STATE GRANGE.

RAILWAY FARES.

The following rules will govern the purchase and use of railway tickets by representatives and visitors in attendance upon the State Grange at Lansing, December 13-16:

Each person desiring the excursion rate must purchase a first-class ticket to the place of meeting, for which he or she will pay the regular tariff fare of not less than 75 cents, and upon request, the ticket agent will issue a printed certificate of purchase of the standard form.

If through tickets cannot be procured at the starting point, parties will purchase to the nearest point where such through ticket can be obtained, and there purchase through to place of meeting, requesting a certificate from the ticket agent at the point where each purchase is made.

Tickets for the return journey will be sold by the ticket agent at the place of meeting, at one-third the first-class limited fare, only to those holding certificates signed by the ticket agent at point where through ticket to place of meeting was purchased, countersigned by signature written in ink by the secretary or clerk of the association, certifying that the holder has been in regular attendance at the meeting, and signed and stamped by the special agent of the Michigan Passenger Association.

Tickets for return journey will be furnished only on certificates procured not more than three days before the meeting assemblies (except that when meetings are held at distant points to which the authorized transit limit for tickets is more than three days, the authorized transit limit shown in regular tariffs will govern), nor more than two days after the first day of the meeting, and will be available for continuous passage only; no stop-over privileges being allowed on tickets sold

at less than regular unlimited fares. Certificates will not be honored unless presented within three days after the adjournment of the meeting. It is understood that Sunday will not be reckoned as one of the three days either before the opening date or after the closing date of the meeting.

No refund of fare can be expected because of failure of the parties to obtain certificates. You will observe from this rule that it will be absolutely necessary for each person to obtain a certificate from the agent where the ticket is purchased to the point where the meeting is held, otherwise the purchaser will be unable to obtain the excursion rate returning, and will be obliged to pay full tariff fare in either direction.

HOTEL RATES.

Lansing hotels and boarding houses make terms to members and visitors as follows: Hudson house, \$1.25 per day; Downey hotel, \$1.50 and \$2.00 per day; New Grand, \$1 and \$1.25; Butler, \$1 and \$1.25; The Octagon, \$1 and \$1.25; Wentworth hotel, \$1 and \$1.50; Van Dyne House, \$1; Locke House, \$1.

JENNIE BUELL, Secretary.

Ann Arbor, Nov. 26, 1898.

JOINT SESSION OF THE STATE GRANGE AND FARMERS' CLUBS.

PROGRAM.

Joint session of the Michigan State Grange and Michigan State Association of Farmers' Clubs. The Association of Clubs the guest of the Grange. Representative Hall, State Capitol, Wednesday evening, Dec. 14, 1898.

Concert by M. A. C. Band from 7 to 7:30 o'clock.

Informal reception to Association of Clubs at 7:15 o'clock.

Introduction—Hon. George B. Horton, Master of State Grange.

Song Greeting—State Industrial School Chorus.

Invocation—Mrs. Mary A. Mayo, Chaplain State Grange.

Welcome—Hon. Thomas Mars, Past Master State Grange.

Response—President E. J. Cook, State Association of Farmers' Clubs.

Singing—Prof. Barnard B. Thomas.

"Relation of the Libraries to the Home"—Mrs. Mary A. Spencer, State Librarian.

"The Fee System in County Offices"—Hon. A. C. Bird, Associate Editor Michigan Farmer.

Singing—Choir State School for the Blind.

"Farmers' Institutes and State Aid Thereof"—A. E. Palmer, member Executive Committee State Grange.

"The Farmer as a Citizen"—Mrs. E. L. Lockwood, Vice-President State Association.

Singing—Choir State Industrial School.

"Association, National, State and Local"—Miss Jennie Buell, Secretary State Grange.

"The Year with the National Department of Agriculture"—By a Representative of the Department.

"Sword and Plowshare"—K. L. Butterfield, State Superintendent of Institutes.

Address—Gov. Hazen S. Pingree.

Singing—Audience.

DECEMBER TOPIC.

Foreign Relations of the Government.

While this topic would not ordinarily be an attractive one for consideration by the Grange, yet under existing conditions it may be found to be interesting as well as instructive.

None of the leading nations of the world are, or can be, strictly independent of all others. The comity of nations, the general laws of trade and commerce, and the personal relations and interests of the people are so interwoven one with the other as to create a community of nations, which may be likened to a community of individuals, who find it not only convenient, but necessary for their varied interests to have friendly intercourse with each other. Of all the leading nations in the world, the United States is the most independent in its position, and in its intercourse with foreign powers. It has always been the policy of our government to avoid all political alliances and entanglements with European powers, and as an additional safeguard against these complications in the future, President Monroe in his annual message in 1823, declared that the American continents "are henceforth not to be considered as subjects of future colonization by any European power," and what has been known as the "Monroe Doctrine," has been in force from that date, and at various periods in our history its principles have been enforced by the United States government, thus preventing European nations from obtaining permanent control of American territory since that time. It has also been the policy of this nation to refrain from acquiring possession of any territory that might be included in the limits of the European powers, outside of American waters. The most important question for this government to solve at the present time is whether or not this nation, by force of circumstances, shall retain control of the Philippine

Islands. It is a question to be considered not only by government officials, but by the people as well.

In the formation of our government provisions were made for diplomatic and commercial relations with foreign countries. The former are conducted by ambassadors and ministers, who represent the government, by appointment of the president, with the advice and consent of the senate. Until 1893 this government had no ambassadors at foreign courts. Since that time the title of ambassador has been given to the United States ministers appointed to Great Britain, France, Germany and Italy. The salary of the first three is \$17,500 per year, of the last \$12,000. The salaries of the ministers to other countries varies from \$5,000 per year to \$17,500, according to the importance of the position. Ministers resident are given positions of less importance, with salaries ranging from \$4,000 to \$7,500 per year. Consuls are the commercial agents of the government, with more active duties than the ministers or diplomatic agents. The number of consuls for this government is about 300, with salaries ranging from \$1,000 to \$6,000 per annum, although some consuls are paid by fees and have liberty to transact business for themselves.

In preparing this part of the topic for discussion, a less number of questions will readily present themselves for consideration than in those already considered, but the lecturer will have no difficulty in formulating and assigning such questions as will make the discussion an interesting and profitable one. Reference books same as in previous month.

WHAT THE GRANGES THINK.

The following is furnished by National Lecturer Messer, and is a summary of discussions of topics for July, August and September. They may be of interest as showing what the Grange as a whole thinks on some leading questions:

July topic was "Methods in Grange Work." Judging from reports received, the discussions on this topic resolved themselves largely into the objects and benefits of the Grange. The consensus of opinion is that the main object of the Grange is to educate and elevate the American farmer, and that while the financial features are important they are subordinate to the educational. The educational features of the Grange are not confined to obtaining a better knowledge of the work and environments of the farm, but it takes in intellectual attainments, social culture, citizenship and a knowledge of legislation and legislative methods. In the Grange this knowledge can only be obtained by attending its meetings and being prepared to take part in the discussions and enjoyments of the occasion. The Grange is the farmers' school of thought to enable them to become united for mutual benefit and protection.

The August topic was "Experiment Station Work," and perhaps the most important topic of the quarter. In a few of the discussions there were some criticisms of the Station Bulletins because they were not plain enough, using too many technical and scientific terms. Another criticism offered was that many of the experiments made are not in the direct line of farm work and are of but little if any practical benefit to farmers. But in a majority of the discussions reported, the work of the stations was commended and the opinion was expressed that if the farmers were not benefited by the station work in their own and in other states it was their own fault and not the fault of the stations. The discussion has undoubtedly been productive of much good in directing the attention of farmers to station work, and in presenting the matter in a most interesting way to a large class of farmers who have hitherto paid but little or no attention to it.

The September topic, "Farm Life," proved to be an interesting one, and called forth a more general discussion among the members than the other topics for the quarter. The most pleasing feature of the discussion, and a most important one as well, was the unanimity of opinion among members that farming is the most desirable avocation in life, affording more of the enjoyments and common blessings for humanity than any other calling. In many of the discussions a very hopeful view of the future of farming was taken by the members. If there were any discussions where "hard times"

and "the downtrodden conditions of the farmers" were brought to the front in all of their gloomy aspects, they were not reported. This is a very significant point, showing that a much better feeling exists among the farming population than for several years.

CO-OPERATIVE SELLING.

Make a greater use of our order by adding such parts as will make it serve us to a better advantage, and accomplish all that was intended; which is clearly stated in the preamble to the constitution of our order, in the words, "the ultimate object of this organization is for mutual instruction and protection, to lighten labor by diffusing a knowledge of its aims and purposes." As the Grange has never tried or recommended a plan of co-operative selling, and as what we have to sell is of more importance to us than what we are obliged to buy, I have come to the conclusion that we should adopt the order system in the selling of our products. To accomplish it we would have to organize before we could succeed.

The National Grange should first prepare a plan, and make its object known to the State Granges, which should present it to the Subordinate Granges; Subordinate Granges must make its usefulness known to those outside of our gates, in order to secure members enough to make it a success, which cannot be accomplished with less than nine-tenths of the farmers in the whole country within the organization.

We should have an agent at each market place to take the orders for our products. The agents should be appointed by the Granges that are to fill the orders of the agents. The Grange or Granges should divide the amount of the orders to its members in proportion to the amount that each member has for sale, and the members to deliver the products at a stated time themselves.

Where there would be several Granges necessary to fill the orders of the agent, it would undoubtedly be best for each Grange to send a delegate at a fixed date to receive orders; the delegates should divide the amounts to each Grange in a proper form according to the total products that each Grange has for sale. All of our products must have a fixed cash price, according to quality, the agents to receive a fixed per cent upon the amount of the orders that they receive.

A very simple plan, which can be easily understood by all. Its success, like every other undertaking, will depend upon the earnest attention and time given by all the members for its consummation. It is the labor which we will apply to it that will secure the benefits of it. We cannot expect that by its proper application we will be able to dispose of all of our products as soon as they are in a proper condition to be placed upon a market; but we are in hopes that we shall be able to receive a proper price for our products that we shall sell; (Continued on page 436.)

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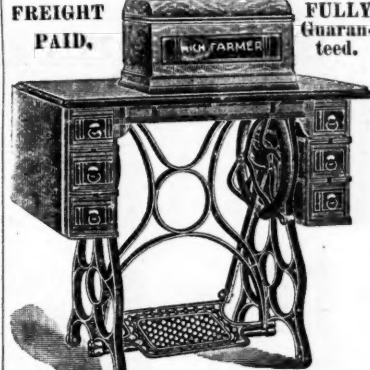
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